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ABSTRACT

Skills to be developed by junior high school students (grades 7-8) along with activities and procedures for achieving desired performance objectives for each of the 15 U.S. Office of Education (USOE) occupational clusters are outlined in this career orientation guide, designed to implement the second phase (career orientation) of Ohio's five-phased comprehensive career development/career education program. Suggestions are made for curriculum adaptation and instructional procedures. Related services available outside the classroom are listed. The major portion of the document relates to implementing the program and is organized in the following manner: Each of the 15 occupational clusters is divided into the seven broad developmental areas of career education (individual and environment, world of work, education and training, economics, employability and work adjustment, decisionmaking, and self), with each area containing one or more overall developmental objectives. Each developmental area contains one or more student performance objectives with related activities and procedures outlined. The appendix contains the 15 occupational flow charts developed by the USOE to aid in understanding the various levels and kinds of occupations in each cluster. (TA)

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OHIO'S CAREER CONTINUUM:

Family Life - Motivation - Orientation - Exploration - Vocational Training or Pre-Professional Training - Adult, Technical and Collegiate Training

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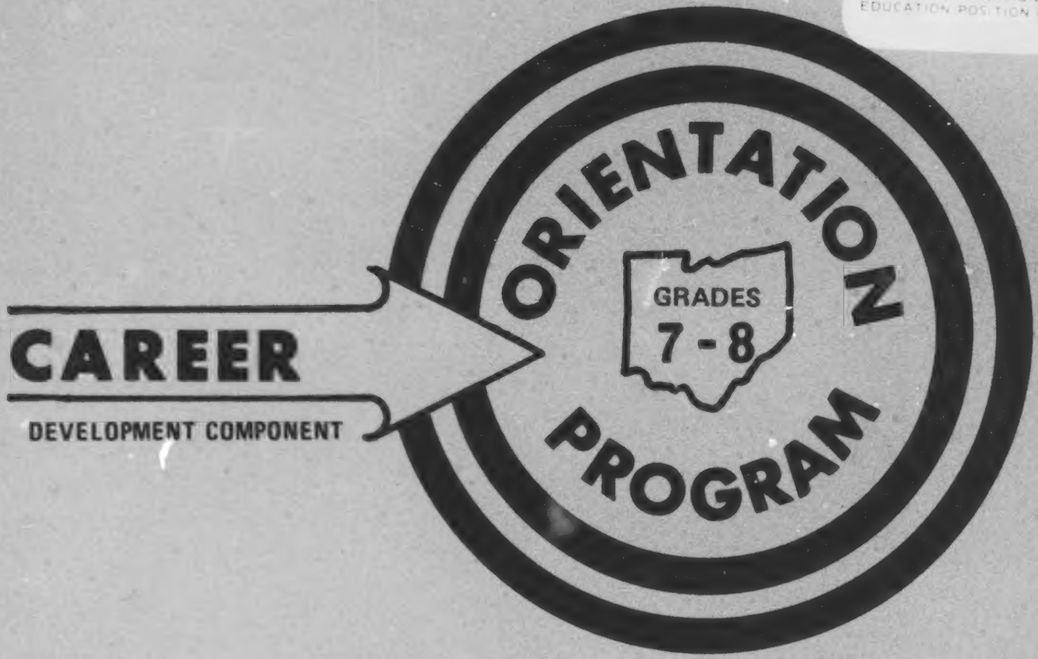

CE 011 552

Ohio Department of Education
Columbus, Ohio 43215

1973

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CAREER ORIENTATION CURRICULUM GUIDE

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CAREER DEVELOPMENT PROGRAM

FOREWORD

In our emerging technological environment, it is becoming increasingly apparent that more emphasis must be placed on preparing students for career entry. Employment is vital to the economic, psychological, and physical well-being of man. Preparation for employment thus becomes a vital part of the public school system. This responsibility has been identified by leading educators and a resultant program of career education has been developed.

Career education starts in kindergarten and continues through Grade 12 and even into the post-high school years. Much motivation, orientation, exploration, and actual preparation are achieved through a meaningful career education program.

We trust this Curriculum Guide will be of significant value to 7th- and 8th-grade educators in developing quality instructional programs in career orientation.

M.W. Essex

Martin W. Essex
Superintendent of Public Instruction

INTRODUCTION

The career orientation program for Grages 7 and 8 is a part of the total career development process from kindergarten through Grade 12. The primary purpose of this program is to provide students with an orientation to careers open to them. Through numerous and varied activities, students examine their own abilities and interests as well as learn about career opportunities and the nature of various careers.

We believe that career orientation should be a part of the curriculum of every 7th- and 8th-grade class in Ohio. We hope to reach this goal as funds become available.

This curriculum guide has been written by successful teachers, coordinators, and administrators who are currently involved with on-going programs. We gratefully acknowledge the work of the following educators: James Black, Parma City Schools; Ellin Caldwell, Toledo City Schools; Kay Fannin, Dayton City Schools; Grace Mayes, Akron City Schools; Wayne Minnick, Cincinnati City Schools; Jan Poncar, Warren City Schools; James Stickley, Mad River Green School District; Henry Wilkins, Cleveland City Schools; and Jama Roman, Toledo City Schools. State staff assistance was provided by R. D. Balthaser, Linda Keilholtz, and Dr. Earl Kantner.

We believe this guide will be of much value in identifying specific student abilities to be developed in your career orientation program and in providing ideas for developing those abilities as you incorporate career orientation into your curriculum.

It may be noted that the approach taken by the authors was not lesson plan development, but rather, one of identifying student abilities in regard to career orientation. We believe the classroom teacher has the ingenuity along with ideas presented herein, to plan the necessary lessons which will develop the desired abilities needed by students.

We trust this guide will be of significant value in the development of quality Career Orientation programs in Ohio.

Byrl R. Shoemaker

Byrl R. Shoemaker
Director
Division of Vocational Education
Ohio Department of Education

Career Orientation Guide, Grades 7-8

This Curriculum Guide has been developed for those persons interested in implementing career orientation programs as well as for those persons involved in on-going programs. Relevant information is included for school administrators, career orientation directors, and coordinators, as well as for teachers in the classroom.

The guide was developed by people with career education experience, including classroom teachers, program coordinators, and administrators. The writing committee was dedicated to developing a curriculum guide that was detailed enough to be of significant value, yet brief enough to be usable.

Suggestions for Use

While every school, every committee, and every individual will develop his own plan of usage, one plan for using this guide is:

(1) Secure guides for all persons concerned with developing career orientation programs.
(2) Plan sufficient time on an individual basis to study:
    - The overall concepts of career education (Chapter I)
    - Basic structures of 7-8 grade career orientation (Chapter II)
    - Procedures for program implementation (Chapter III)
(3) Organize groups of individuals on a special interest basis (as instructional areas) to discuss relevance to them.
(4) Hold in-service education sessions to–
    - Review rationale for career orientation (all involved must understand the philosophy of the program).
    - Review the implementations suggested by the committee.
    - Develop the suggestions into a program which will be accepted by the group.
(5) Implement a meaningful program
(6) Evaluate periodically and re-direct as needed

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CHAPTER I

INTRODUCTION TO CAREER EDUCATION

CHAPTER I

THE CAREER EDUCATION CONTINUUM

Career Education is a concept designed to provide students with the necessary information and developmental experiences to prepare them for living in society. It combines the efforts of home, school, and community and reaches from pre-school through adulthood.

In Ohio, the CAREER DEVELOPMENT PROGRAM is that part of the total Career Continuum Program designated K-10, including Career Motivation from K-6, Career Orientation from 7-8, and Career Exploration from 9-10. These programs prepare the student to make choices for vocational education or pre-professional education in grades 11-12 (or age 16).

A total career education program consists of the following phases:

1. A total *Family Life Program* within the school curriculum with special emphasis for disadvantaged people to help improve the care and motivation of pre-school children and assure a more positive impact of the home on the needs of school-age youth.

2. A *Career Motivation Program* for all youth in kindergarten through Grade Six which develops a positive attitude toward the world of work, inspires respect for all work, and creates a desire to be a part of the world of work.

3. A *Career Orientation Program* in Grades Seven and Eight which provides all youth the opportunity to become aware of the many occupations open to those who prepare for them.

4. A *Career Exploration Program* in Grades Nine and Ten, or ages fourteen and fifteen, which provides all youth with the opportunity to examine and gain firsthand experiences with several career opportunities consistent with individual interests and ability.

5. A *Career Preparation Program* for youth age sixteen and above which includes:

    A. a comprehensive vocational education program which provides job skills and technical knowledge and develops work habits and attitudes in preparation for employment; and

    B. a comprehensive pre-professional education program which provides knowledge and foundations in preparation for professional education beyond high school.

6. A *Career Training, Retraining and Upgrading Program* for out-of-school youth and adults which provides the opportunity throughout adulthood to train, retrain and upgrade skills as technology changes and societal and individual needs and desires dictate.

OHIO'S CAREER DEVELOPMENT PROGRAM

Career education was introduced to Ohio in fiscal year 1970 when the Division of Vocational Education, State Department of Education, following recommendations of a Governor's task force on Vocational and Technical Education, initiated programs of career orientation for 7th and 8th grade students in nine schools in six school districts.

In September 1970, career orientation programs were expanded to include twenty-six schools in eight school districts, serving over 10,000 students; and career education was extended in both directions, downward to the K-6 level for Career Motivation and upward to Career Exploration at 9th and 10th grades—thus completing the scope of Ohio's K-10 Career Development Program. Sixteen schools in nine school districts of Ohio, serving over 10,000 students, piloted K-6 Career Motivation programs; and at the same time five high schools serving approximately 5,000 students, initiated Career Exploration programs.

Fiscal year 1972 saw further growth of career education in Ohio. With the addition of state funds, career education programs in ten school districts were "rounded out" to form ten complete K-10 Career Development programs, serving 37,000 students. In fiscal year 1973 over 120,000 students and 4,500 teachers participated in career education in 20 school districts in Ohio.

It is the goal of the Division of Vocational Education, State Department of Education, to reach all of Ohio's two million students by 1980.

In the Ohio Career Development Continuum, five separate time spans have been identified. Each time span has a unique educational program designed for students at that level. The five time spans and the corresponding career education program or programs are as follows:

Time Span (grade level)	*Career Education Program*
Kindergarten—6th grade	Career Motivation
7th and 8th grade	Career Orientation
9th and 10th grade	Career Exploration
11th and 12th grade	Vocational Education and/or Pre-Professional Careers
Post Secondary	Technical Education Adult Education Higher Education

The Ohio career education concept also recognizes that special educational programs are needed for disadvantaged and handicapped students to meet their vocational needs. These programs may cut across all grade levels and move into post-high school areas of training.

DESCRIPTION OF COMPONENTS

Career Motivation

This career education program is for kindergarten through 6th-grade students. Students develop an awareness that people do work and that one's occupation is an important part of life. Students are also motivated to want to perform some part in the world of work.

The objectives of this program are:

1. To make all youth aware of work
2. To develop in all youth respect for work
3. To motivate all youth to want to take their place in the world of work as productive members of the labor force

Career Orientation

This is a career education program for 7th- and 8th-grade students. Students develop a knowledge and attitude about jobs, self, and society. This program is a middle ground between the development of positive motivation about work (Career Motivation) and decisions about jobs (Career Exploration).

Career Exploration

This is a career education program for 9th- and 10th-grade students. Students will be involved in specific experiences that relate to jobs. This program is unlike the other two career education programs, Career Motivation and Career Orientation, in that it emphasizes decision-making about careers through experiences instead of being limited to developing attitudes and knowledge about work.

The Career Exploration Program goes one step further in the guidance function in that it extends beyond testing, brochures, and college choice. It adds experiences which help students to make decisions about what type of work students will do when they become adults.

The career education program provides a logical base upon which subsequent educational preparation on the 11th- and 12th-grade levels can build as well as post-secondary educational experiences and actual employment.

Vocational Education

This program equips persons for useful employment. It gives definite purpose and meaning to education by relating to occupational goals, by providing the technical knowledge and work skills necessary for employment, by contributing to the general education needs of its students, and by its uniqueness in not being a discipline but rather cutting across and drawing from a number of disciplines and from the practical work world in the occupations in agriculture, business and office, homemaking, distribution, trade and industrial fields requiring less than a college degree.

Occupational Work Adjustment (OWA)

This program is designed for 14- and 15-year-old students who are disenchanted with the educational system and the way in which they relate to that system. The program provides opportunities for individuals to develop positive attitudes toward self, toward learning, and toward work. These students are involved in work experiences in the school environment and in private industry. There is no emphasis on manipulative skill development.

Occupational Labs

This program is a short-term effort to teach single skilled and semi-skilled occupations in an in-school setting. These students have a low expectancy for completing high school. Because of the short-term nature of the program, no concerted effort is made to develop additional skills in arithmetic, reading, and writing.

Occupational Work Experience (OWE)

This program is designed for students who are 16-years-old and older. These students are likely to drop out of school without a basic skill for employability. While in this program, students learn basic skills, develop better attitudes, and improve their skills in arithmetic, reading, writing, and decision-making in addition to the development of single skills and semi-skills.

Pre-Professional Program

This is a high school program preceding entrance into a college curriculum and organized on a potential career base.

Technical Education

Technical Education is a level of education planned to prepare para-professional persons in two-year post-high school programs to support the professional people in engineering, business, agriculture, distribution, health, social science, and public service occupations. It is primarily concerned with design, development, testing, supervision, and mid-management functions which free the professional to work at his highest level of education.

College

This is the post-high school educational program which leads to a baccalaureate degree beyond a high school diploma.

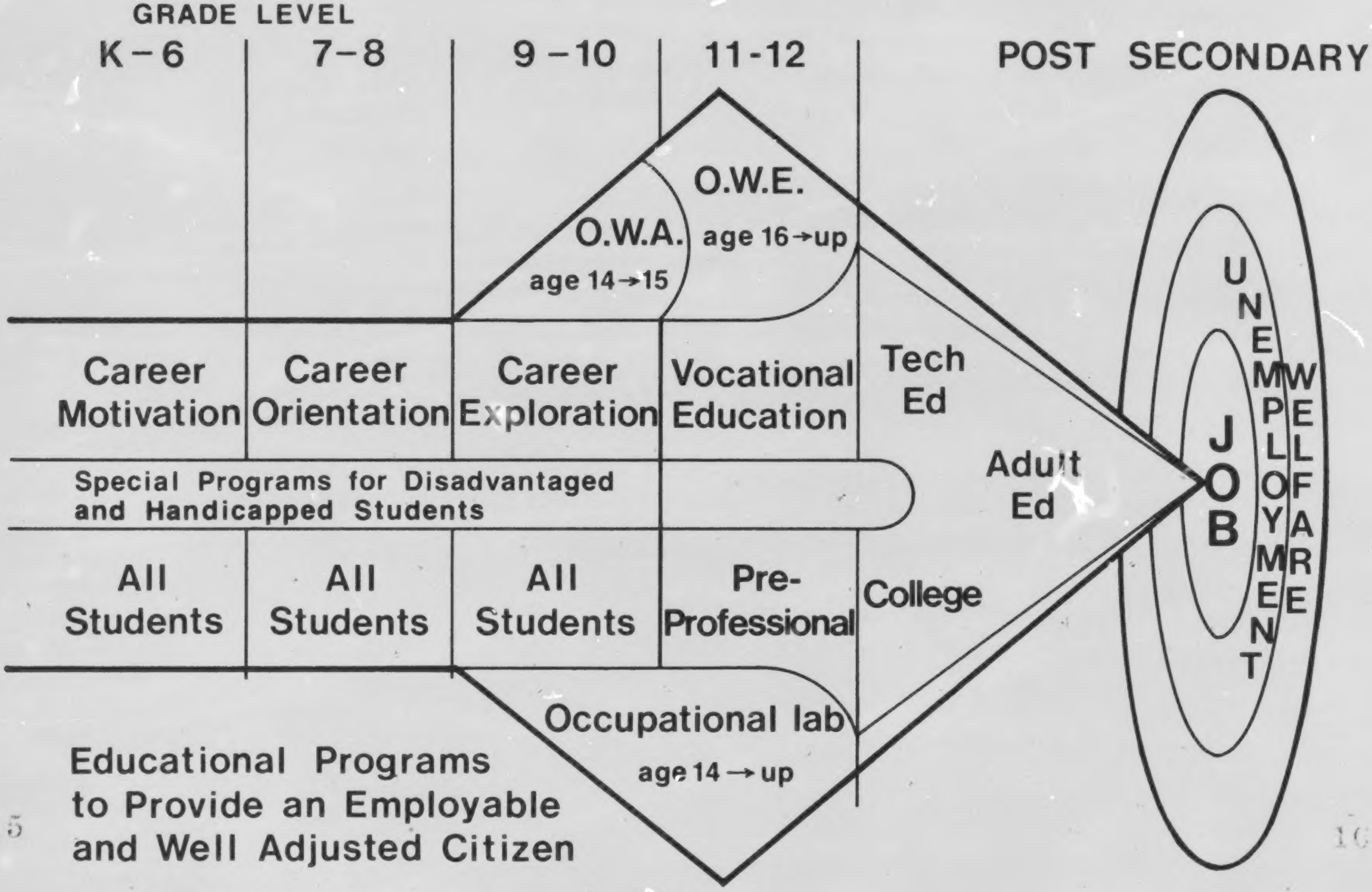
Adult Education

This is an educational program for out-of-school youth and adults which is designed to: (1) upgrade existing skills and knowledge, (2) teach new skills or knowledge resulting from technological change, or (3) provide instruction for a vocational or personal use.

These concepts are summarized visually on page six. This is an attempt to portray the interrelated, program aspects of the total continum.

OHIO STATE DEPARTMENT OF EDUCATION · DIVISION OF VOCATIONAL EDUCATION

OHIO'S CAREER DEVELOPMENT CONTINUUM



GRADE LEVEL

K-6

7-8

9-10

11-12

POST SECONDARY

O.W.A.
age 14→15

O.W.E.
age 16→up

Career Motivation

Career Orientation

Career Exploration

Vocational Education

Tech Ed

Special Programs for Disadvantaged and Handicapped Students

Adult Ed

All Students

All Students

All Students

Pre-Professional

College

Occupational lab
age 14 → up

JOB

UNEMPLOYMENT

WELFARE

Educational Programs
to Provide an Employable
and Well Adjusted Citizen

CHAPTER II

THE 7-8 CAREER ORIENTATION PROGRAM

CHAPTER II

THE GRADES 7-8 CAREER ORIENTATION PROGRAM

The second phase of the career development program, Career Orientation, builds upon the K-6 Career Motivation foundation of awareness, appreciation, and motivation. Career Orientation deals more specifically with work in the form of occupations. At the junior high level, the student is exposed to specific jobs and occupations within the 15 U.S. Office of Education job clusters and to continued emphasis on the seven broad developmental areas.

To offer students exposure to the widest range of occupations, the program must permeate the school. The Career Orientation program should be incorporated and taught as a part of the schedules of all instructors in the school, thus including the many areas of experiences necessary for the growth and development of the student.

The structure of the Career Orientation program should be planned and organized by a nucleus of innovative local instructors. The basic concerns of this group will be the review and adoption of the objectives of the program and the development of suggested procedures for implementing the program. Thereafter, the entire staff of the school should be involved in order to develop a program which will be meaningful to the instructor and to the student.

OBJECTIVES OF CAREER ORIENTATION

In developing a quality career orientation program, it is first necessary to determine what is to be accomplished. Eight specific goals have been identified:

(1) To provide the student with opportunities to develop an awareness of his own interests, abilities, aptitudes, personality, and life aspirations, and the effects of these characteristics on future job choices.
(2) To provide the student with opportunities to gain exposure to the diversity of careers available in society.
(3) To provide the student with opportunities for exposure to all levels of employment within career clusters, and to learn what is required to become employed at each level.
(4) To provide career exposure to meet the needs of all students.
(5) To provide a knowledge of the economics necessary for participating in a technological society and the economic variation among jobs.
(6) To provide a knowledge of the kind of education or training required and work traits necessary in obtaining employment and gaining success in jobs and careers.
(7) To provide an opportunity to develop an attitude that socially useful work has dignity and worth and is necessary as a part of an integrated socioeconomic system.
(8) To provide an opportunity to develop a decision-making ability concerning career choice that considers all relevant factors.

CAREER ORIENTATION—A TOTAL CURRICULUM CONCEPT

We are living in an age of advanced technology when the rate of change is multiplying itself at an increasing rate. Where this will lead can only be surmised. The effects it has had on our society are measurable. As man has been able to trade his muscle for some other form of power by using technology, the process has released more members of our society to engage in service pursuits and has created more specialization. This process also created changes in the society, one being that education of the youngsters, in part, was released by the family and given to the public schools, where, in time, it became formalized and was designed to teach group values and special occupations.

Once the children learned their occupations solely from their families. They now learn mainly from formal schooling, and from their families by chance. This, then, suggests a new emphasis on organized career training in our curricula.

There are, of course, some problems in incorporating Career Orientation into any highly structured curriculum, yet most educators agree that the career concept is valid and should be instituted in the total school program. Although most students will not express themselves in so many words, their lack of interest and the drop-out rate tell us that the subjects being taught often show little relevancy to them as individuals. It does society and the students little good for the public schools to graduate students who are not prepared to enter a gainful occupation.

In order for the student to make a career choice from the widest range of occupational information, the Career Orientation program must permeate the entire curriculum. The exposure cannot be treated as an isolated subject, but as one that contributes to the entire motivation and enrichment of the many areas of experience necessary for the growth and development of the student.

THE SEVEN DEVELOPMENTAL AREAS OF CAREER ORIENTATION

In analyzing the objectives to be accomplished in a career orientation program, it becomes apparent that the scope of the program is quite broad.

It is important to understand that a career orientation program, to be effective, must touch the many aspects of a student's decision-making process. Thus the following seven components have been identified as concepts of career development:

Individual and Environment

World of Work

Education and Training

Economics

Employability and Work Adjustment

Decision-Making

Self

The seven components are not job-centered, but instead are student-centered. All of the concepts are integral parts of the student's personal, educational, and vocational development. A description of each component follows.

INDIVIDUAL AND ENVIRONMENT

This component is designed to develop an understanding of the individual in relation to his environment. It provides the student with insights into: why people work, how environments keep people producing, the relationship between the individual and work and between the environment and work, how people use and modify environments and their resources. The Individual and Environment component helps the student understand his role in the home, school, community, and work. The major goal is to understand the role each person plays and how he plays that role.

WORLD OF WORK

The World of Work component deals with work values, the variety and nature of occupations, work families and their interdependency, and methods of studying and classifying occupations. A study of World of Work at the junior high level must begin with the local community. Particular consideration must be given new and emerging occupations.

ECONOMICS

This component emphasizes both the earning of income as a worker and the disposition of income (saving, spending, money management) as a consumer. To be successfully involved in our economic system as a wage-earner, the student must understand the operation of the economic system and its effects on man. Economics include knowledge of salary ranges, the costs and benefits of future education or training, the influences of supply and demand on the job market, and an understanding of how productivity and income growth cause changes in employment.

EMPLOYABILITY AND WORK ADJUSTMENT

The Employability and Work Adjustment component deals with obtaining and holding a job and advancement in a career. This component can be divided into six skill subtopics including:

1. interpersonal relationship skills needed to function in a job,
2. adaptability skills needed to adjust to changing jobs and job requirements,
3. basic educational skills including reading, writing, and arithmetic,
4. job skills to perform entry level tasks, to grow with the job, and to make transfers to other job areas, if necessary,
5. job-seeking skills to attain employment commensurate with abilities and training,
6. industrial discipline on the job, attitudes and work habits needed to retain and progress in an occupational area.

DECISION-MAKING

Decision-making is, in reality, not a separate component but a process that encompasses all of the developmental areas. In order to make a wise career choice, the goals of the student must be defined and possible alternate solutions considered. After collecting relevant information and examining the consequences of the alternatives, the goals and alternatives should be re-evaluated. The results can then be generalized to meet new problems and situations.

SELF

Self as subject is the emphasis of this component. It includes how and what a person thinks of himself—his attitudes, perceptions and self-evaluation of his interests, aptitudes, achievements, and values. Some of the activities associated with the self component are group and individual counseling, test interpretation, group guidance procedures and the use of such guidance analysis techniques as diaries, role-playing, open-ended discussions, and self-reports.

THE FIFTEEN U.S.O.E. JOB CLUSTERS

In the Grades 7-8 career orientation program, a major emphasis is given to a knowledge and attitude about jobs on a broad basis. This should of course be done on an organized basis and thus the United States Office of Education developed "job clusters" as a means of classifying jobs into a workable pattern. Almost all careers can be classified into one of the following fifteen clusters:

Agri-Business and Natural Resources

Environment

Health

Marine Science

Communications and Media

Business and Office

Marketing and Distribution

Public Service

Transportation

Personal Service

Consumer and Homemaking Education

Hospitality and Recreation

Fine Arts and Humanities

Manufacturing

Construction

In the analysis of each cluster, important points of emphasis are the hundreds of job categories in each and their relationship to each other and to society as well as the varieties of occupations and opportunities available. The contents of each cluster (including sample careers) are included in Chapter 3.

Occupational flow charts which present a breakdown of occupations for each of the 15 job-cluster areas are located in the appendix. They were developed by the United States Office of Education and are useful in identifying the major aspects of each cluster. Teachers may wish to identify jobs in each area as a good career orientation activity.

CURRICULUM ADAPTATION

Before a teacher is willing to re-think an established curriculum with intentions of changing one or more of its aspects in favor of career orientation, he must be shown that the career concepts will benefit the student. Any school system contemplating the addition of career education must provide in service workshops to familiarize its staff with the concepts. Once the staff accepts career education, the next step is to survey the literature and exchange dialogue with other systems now involved in career education programs. Then the system must design a local program that meets local needs and the broader needs of the student who will live in a highly mobile society.

There is no possible way to design a program that will be acceptable to all teachers and students in the state of Ohio. The content and techniques of courses vary with the skills of the teacher and the aptitudes of the pupil. Each seventh- and eighth-grader should be exposed to each of the fifteen U.S.O.E. occupational clusters. One way to insure such exposure is to have teachers choose those clusters that best represent the skills taught in their particular subject. Following is a suggested plan:

Art

Once the career concept is understood, the first step to providing career orientation in the art curriculum is to survey the present course and courses in other systems that already have career education programs to evaluate what is being done and to determine what must be done to accomplish the career objectives.

There are two clusters, *Fine Arts and Humanities* and *Communications and Media*, that seem to present many opportunities that can be correlated to most art studies. It is advisable to study these clusters in Chapter 3 for detailed plans.

Industrial Arts

The industrial arts curriculum is one which is readily adaptable to career education concepts and procedures. Students studying industrial arts at the 7th- and 8th-grade levels are involved in many action activities which are especially relevant to several of the job clusters. Those clusters that are most closely related to the industrial arts curriculum and therefore could be administered by industrial arts are the *Manufacturing* cluster and the *Construction* cluster.

Home Economics

The nature of the home economics curriculum makes the *Consumer and Homemaking Education* cluster especially appropriate to administer through home economics. Consumer economics has traditionally been taught in home economics because that knowledge is needed for proper family financial management. The homemaking aspect of this cluster ties in closely with home management and maintenance, food services, child care, clothing, and other homemaking topics which are normally taught in the home economics curriculum.

Language Arts

The language arts curriculum is ideal for exploring the fields of *Communications and Media* with their involvement in literature, writing, public speaking, and the theater. The home economics, industrial arts, and art departments can offer many opportunities for "hands on" experiences that can enrich the language arts program.

Mathematics

Business and Office and *Marketing and Distribution* are two career clusters that generally relate to the mathematics curriculum.

One mathematics department currently engaged in a career orientation program started off its rationale like this:

> For too many years the mathematics curriculum had no specific direction. The student was encouraged to take mathematics because "he would need it some day," or "studying mathematics helps a person mature," or "if one learns mathematics he becomes a better thinker."

Although all of the above reasons sound good and meaningful, they are but "spin-offs" and not direct reasons for any one to study mathematics.

With this rationale, the teachers then studied their curriculum and designed career-related informations and activities to coincide with concepts being taught in an effort to make mathematics relevant for the student. In this program they make use of pre-tests, post-tests, questionnaires, and out-of-class projects as well as consultants and field trips. A successful program depends upon involved students and teachers in real life situations.

Music

Fine Arts and Humanities appears to be the career cluster that correlates most closely with the music curriculum. However, as in most cases some areas in other clusters lend themselves to study by the music department. One example is the manufacturing, tuning, and repairing of musical instruments. Because a person can neither sing or play does not keep him from enjoying music; if the person likes music well enough he may want to choose his occupation in one of its support fields.

As our society enters the super-technological age increasing numbers of people will need to develop careers in the service area. Once the decision is made to develop a career orientation approach in the music department, the course content and methods should be reviewed; a survey of current literature and programs should be made; inservice planning sessions should be held during which the original curriculum can be re-written to include the best of each and "tailor-made" to fit the local students needs.

Physical Education

There are many available occupations related to the physical education field other than the "Professional Athlete" and the student should be made aware of what is available and how to gain the necessary job entry skills. *Hospitality and Recreation* is the career cluster that is most directly related to typical physical education activities.

The ability to build a good career orientation program is limited only by the imagination of the teacher. Where class time is limited, as in physical education, it may be possible to use other times: after school, weekends, study halls, and lunch periods. Many methods should also be examined. There is a vast quantity of audiovisual material that could be made available through the library. Consultants, assembly programs, or careers clinics also good ways to reach the student.

The special rapport and respect between the physical education teacher and the teenager makes the physical education teacher and the physical education department very important members of the career orientation team.

Science

Although subject matter and methods vary from school system to school system, the nature of most science curricula lends itself to orientation in the *Agri-Business and Natural Resources, Environment,* and the *Health Occupations* career clusters.

The science area is easily related to the career education concept. Many students enjoy "doing" activities and types of occupations prevalent in the career clusters suggested for the science curriculum can easily be simulated. Through committee work, visitation to other career orientation programs and reference to Chapter 3 of this guide, the teacher can find endless ways of adopting the science area to career education procedures.

Social Studies

The inclusion of career orientation objectives in social studies can be achieved if the personnel involved understand and accept these philosophies as being essential to the student's needs.

Those career cluster areas that lend themselves best to the social studies curriculum are *Public Services* and *Transportation.*

Special Education

Special education as defined in this guide will include all of those courses designed to meet special physical or psychological needs which cannot be better met in "regular" courses. Generally the number of students taking these courses is small when compared with other courses. Often the teacher must acquire a special certificate in addition to the regular certificate to qualify to teach in the special area.

Basically the process for the development of a career-orientation, integrated curriculum is the same as for other subject areas. This requires in-service training to familiarize the teacher with the objectives of career orientation and to help the teacher develop a skill at writing objectives and lesson plans, an indepth study of the established curriculum, a survey of current literature, materials and programs, and finally the opportunity to write curriculum change that will incorporate the best of these in the revised program.

Summary

Each instructional area is important to the development of a useful person in our society. Each teacher can design a realistic career information program that will add relevancy to his subject matter. When this is done it is expected that greater student interest will result and a student will be developed who can assume his role as a useful citizen in adult life.

INSTRUCTIONAL PROCEDURES

Methods of good teaching in career education are quite similar to methods of good teaching in other aspects of the curriculum. Heavy emphasis is put on action, whereby the student takes an active part in the learning process. Three distinct types of learning activities are recommended:

Vicarious Activities

Students can profit greatly from literature, books, career monographs and publications, and such audiovisual aids as films, slides, tapes, bulletin boards and charts. These materials enable the student to learn about various occupations without actually observing or performing the job tasks. Vicarious experiences broaden the individual's or group's career exposure.

Simulated Activities

In order to reinforce the student's interest in a particular area, activities involving mock job situations and/or job tasks can be incorporated into the curriculum. Such activities can take the form of simulated work situations, career games, role-playing, computer "counseling," job interviews, individual skill activities, and class projects. The classroom teacher's ingenuity will produce many meaningful simulations. These experiences provide the student with real sensations in a non-real setting, thus allowing the student to become mentally, physically, and emotionally involved.

Hands-On Activities (Experiencing)

The more students become involved in "doing" rather than "discussing," the less will be the need for concerns about student motivation. Actual experiences in work tasks and part-time job experiences, observations of work settings and guided work experiences provide valuable criteria by which the student can test his interests and abilities.

TEACHING MATERIALS

Although no specific materials are listed in this guide, general resources are. A careful check of the classroom and audiovisual department should uncover most of these materials. There is an unlimited quantity of career education material available today and more is being produced daily. Commercial firms are developing voluminous materials from inexpensive, simple fact sheets to expensive, elaborate programmed courses. All material should be carefully reviewed and selected on the basis of its relevance to the local curriculum goals and design.

RELATED SERVICES AVAILABLE TO CAREER ORIENTATION

The career orientation program involves numerous services found outside the classroom walls. The enterprising teacher will want to identify each of these services and make effective use of them in well-planned situations. Administration and career orientation coordinators will want to assist in managing the available resources so that implementation by the busy classroom may be expedited.

Following are some of the available services:

Guidance Services

DEFINITION OF THE TASK

A major focus of guidance in Grades 7 and 8 in career orientation is an adequate preparation of students for subsequent educational experiences which will lead to critical educational and career decision-making. The unique needs of students, which are as much social and emotional as they are intellectual, must also be provided for by guidance services at the middle/junior high school level.

DIMENSIONS OF THE SERVICES

1. Information Service
   a. information about educational, career and personal-social concerns
   b. data for career development
2. Pupil Appraisal and Record Services
   a. identification of abilities, achievements, and interests
   b. information about students
   c. a more complete understanding of self
3. Group Guidance Services
   a. developmental guidance
   b. group guidance
   c. internalize information
4. Counseling Service
   a. individual and group counseling
   b. confidential and open lines of communication
5. Consultative Service
   a. assistance is provided for concerned adults who work together to help students
   b. clearly identified purposes are achieved
6. Parents Conference Service
   a. the family and the school share responsibility
   b. parent conferences
7. Resource Coordination Service
   a. coordination of the use of available school and community resources
   b. referral resources, information resources, and service resources are identified
8. Placement Service
   a. assistance is provided for students in making effective transitions from one level of education to another and from school to employment.
9. Evaluation and Planning Service
   a. follow-up is utilized as a basic research tool
   b. what happens to students while they are in school and after they leave the school forms the basis for school assessments
   c. evaluation is conducted to provide facts for the assessment of guidance services

To achieve its guidance services objectives, each school must develop clear definitions of the responsibilities of all staff members who are assigned duties related to guidance program inputs for career orientation.

LIBRARY SERVICES

The library resource center should provide the physical necessities such as:

1. a place to store materials
2. a system to find those materials
3. a place where individuals can research their problems
4. a place where groups can meet to do their research

The librarian should asssit in teacher preparations, class projects, individual studies, and such other activities. The degree of success a career orientation program can achieve will depend heavily upon library services.

The librarian should be aware of and alert teachers to the fact that projects and assignments should be limited to facilities available. An example might be a teacher assignment for fifty students to do a project within a short time when limited resources are available. Similarly, it becomes a problem to a company or institution when several hundred students write for the same information at the same time. This action could result in causing a sympathetic institution to limit or stop cooperation with the school system.

COMMERCIAL TEACHING AIDS

There are many aids for classroom teachers to utilize in implementing career orientation programs. There is much material already and more is being generated each day. Commercial firms are developing vast arrays of items from simple fact sheets to entire programmed courses. There is a great quantity of free and inexpensive materials available. After surveying the items available from the numerous companies, the individual teacher can design a program that can best meet the needs of his students in terms of real needs and interests.

OTHER LOCAL SCHOOL AND COMMUNITY RESOURCES

There are far too many school and community resources available in every school district to list here. The enterprising teacher will find an unending source of such resources. Examples include: school laboratories, shops and grounds, community agencies for field trips, various resource persons, and numerous common items used in the various careers. In developing a career orientation program, a detailed survey of existing local resources should be made.

CHAPTER III

IMPLEMENTING THE PROGRAM

CHAPTER III

IMPLEMENTING THE PROGRAM

As indicated earlier in this guide, the approach taken by the authors was not to write a handbook of lesson plans, but rather to identify the skills (performance objectives) to be developed by students along with activities and procedures for achieving those desired objectives.

It is most important for the reader to understand the organization pattern used in this chapter:

1. The chapter is composed of fifteen occupational clusters (color coded for easy reference).
2. Each cluster is divided into the seven developmental areas of career education (see page 11).
3. Each of the seven developmental areas contains one or more overall developmental objectives, as determined by the writer.
4. Each developmental area contains one or more student performance objectives with related activities and procedures.

Simply stated, this chapter helps the teacher to—

1. identify what the student should learn (performance objectives) about careers, and
2. determine those activities and procedures that will teach the student what he needs to know.

The appendix contains the fifteen occupational flow charts developed by the U.S.O.E. These breakouts of the clusters may be useful to adults as well as students in understanding the various levels and kinds of occupations in each cluster. Teachers may wish to have students research the jobs that are available in the various divisions of the clusters.

JOB CLUSTER I

AGRI-BUSINESS AND NATURAL RESOURCES

JOB CLUSTER I

AGRI-BUSINESS AND NATURAL RESOURCES

A. Rationale

Man depends on agriculture and natural resources to provide food, clothing, and other materials used in the production of articles man needs. Students should realize their dependence on agriculture and likewise the interdependence of agriculture and society. They should be aware of the vast number and kind of job opportunities available to them in agriculture and natural resources. Students often think only of production agriculture but opportunities in other areas of agriculture offer many additional employment opportunities and this fact should be stressed.

B. Agri-Business and Natural Resources in the Curriculum

An introduction to the agri-business and natrual resources cluster can easily be incorporated into several instructional areas with science being the most likely area. Science instructors can use many examples involving agriculture and natural resources; mathematics instruction can include problems involving agriculture which can lead to exploration of careers where these skills are needed; social studies instructors can show the dependence of our society and other societies on agriculture and can lead into opportunities in our present society based on past history or current issues. Language arts teachers can incorporate this cluster into their program through vocabulary, grammar, and literature assignments which will allow the student to look into the agri-business and natural resources industries. In other subjects instructors will find many methods of incorporating this cluster into their curriculum. Competencies in the agri-business and natural resources cluster would include skills in or knowledge of —

1. the production and propagation of animals (land and aquatic), animal products, plants and plant products.
2. the manufacture, distribution and servicing of supplies used in agricultural production.
3. the design, installation, repair, operation and servicing of machinery, equipment and power sources; and the construction of structures and conveniences used in agricultural production.
4. the inspection, processing and marketing of agricultural products and primary by-products.
5. aspects of greenhouse, nursery, landscaping and other ornamental horticultural operations.
6. the conservation, propagation, improvement and utilization of renewable natural resources.
7. the multiple uses of forest lands and resources.

Typical occupations in Agri-Business and Natural Resources include:

- Parts Clerk
- Drainage Laborer
- Parts Salesman
- Cheesemaker
- Apple Grader
- Field Foreman
- Bottler
- Canning Machine Operator
- Park Laborer
- Game Farm Laborer
- Fish Hatchery Worker
- Timber Marker
- Park Warden
- Farm Hand

- Farmstead Planner
- Rural Carpenter
- Safety Technician
- Equipment Dealer
- Tractor Mechanic
- Butcher
- Lab Technician
- Oil Extractor
- Arborist Technician
- Golf Course Superintendent
- Naturalist
- Park Ranger
- Wildlife Manager
- Farrier
- Auctioneer
- Seed Salesman

- Rural Electric Specialist
- Research Engineer
- Tiling Surveyor
- Irrigation Specialist
- U.S.D.A. Inspector
- Quality Control Superintendent
- Food Plant Sanitarian
- Teacher
- Soil Scientist
- Fish Biologist
- Castographic Survey Technician Aide
- Forester
- Air Pollution Control Technician
- Sanitary Engineer
- Organic Chemist
- Veterinarian

CLUSTER I: Agri-Business and Natural Resources

DEVELOPMENTAL AREA A: Individual and Environment

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To develop the understanding that successful careers in agriculture are based on personel interests and abilities in the field of agriculture.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1. To list five interests needed for a successful career in agriculture.	1.1 Students tour agriculture businesses and interview workers concerning interest areas.	1.1 Check with coordinator for field trip arrangements.
	1.2 Students view films on career in agriculture and discuss interests needed for particular careers.	1.2 Check with audiovisual departments for films.
	1.3 Students role-play situations demonstrating interests desirable for various careers.	
2. To list five abilities needed to succeed in agri-business or natural resources careers.	2.1 Students observe workers and identify abilities.	2.1 Check with library or guidance office for materials.
	2.2 Students do research in *Dictionary of Occupational Titles* (DOT) or similar publications for information.	2.2 Contact local Vocational Agriculture for information.

CLUSTER I: Agri-Business and Natural Resources

DEVELOPMENTAL AREA A: Individual and Environment (cont.)

OVERALL DEVELOPMENTAL OBJECTIVE NO. 2: To develop an understanding that successful careers in agriculture may depend on an individual's stability and integrity as well as his ability.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1. To list five careers in agriculture where integrity and stability are of utmost importance.	1.1 Students interview resource persons such as agricultural bankers, livestock dealers, and chemical mixers, and report information to class.	
	1.2 Students present simulations showing problems that can arise in agricultural dealings.	
2. To compare three careers requiring great stability and integrity with three where these traits are not as important.	2.1 Students study trait lists to identify differences in careers.	2.1 Consult *DOT* and supplements.
	2.2 Students view films which demonstrate traits and problems that arise.	2.2 Check with audiovisual department for films demonstrating desirable traits.

CLUSTER I: Agri-Business and Natural Resources

DEVELOPMENTAL AREA B: World of Work

OVERALL DEVELOPMENTAL OBJECTIVES NO. 1: To orient students to careers in agriculture in the local area.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To identify on a local area map of businesses and agencies which hire people in agricultural occupations.	1.1 Students visit local business which hire agricultural workers.	1.1 Arrange field trips with local coordinators.
	1.2 Students conduct survey of local businesses and agencies to find out how many people are working in agri-business or natural resources occupations.	1.2 Provide school paper and envelopes for survey forms.
2. To develop a local job opportunities listing for careers in agriculture.	2.1 Students report to classmates on agri-business opportunities.	2.1 Check with Chamber of Commerce, Local Vocational Agriculture Teacher, the County Extension Office and similar agencies for information.
	2.2 Students prepare charts listing local employers.	

CLUSTER I: Agri-Business and Natural Resources

DEVELOPMENTAL AREA B: World of Work (cont.)

OVERALL DEVELOPMENTAL OBJECTIVE NO. 2: To orient students to the wide variation in careers available in agri-business and natural resources.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To list five careers in agriculture which are in great demand.	1.1 Students research current literature to determine demand for agricultural careers.	1.1 Check with library and guidance office to be sure materials are available.
	1.2 Students tour agricultural businesses and question guides concerning job opportunities and demands.	1.2 Arrange for field trips with local coordinator.
		1.3 Notify companies to be toured of information students will request.
2. To list at least three careers in each of the following areas: 1. Agriculture Production 2. Agri-mechanics and Equipment 3. Agri-products 4. Horticulture 5. Forestry 6. Environmental Protection 7. Agri-supplies and Services	2.1 Students research information to determine careers in agriculture.	2.1 Check with guidance office or vocational department for availability of information.
	2.2 Students split into committees and report to class on careers in one area.	

CLUSTER I: Agri-Business and Natural Resources

DEVELOPMENTAL AREA C: Education and Training

OVERALL DEVELOPMENTAL OBJECTIVE NO.1: To introduce students to educational and vocational requirements for careers in agriculture in the local area.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The students will be able: 1. To identify educational requirements for ten occupations in agriculture.	1.1 Have speaker or graduate from an agricultural or technical school explain requirements. 1.2 Have students select and report on requirements for specific careers.	1.1 Ohio Higher Education Notebook. 1.2 Obtain entrance requirements for colleges and technical school. 1.3 Prepare lists of people in agriculture who can be interviewed.
2. To list ten jobs which are related to agriculture and the required agricultural skills for each.	2.1 Students visit agriculture industries and businesses. 2.2 Students interview workers to determine skills and training required.	2.1 Arrange for field trips to a variety of agri-business and industries.
3. To prepare a career ladder in agriculture based on education and training requirements and showing levels of employment including— Unskilled Skilled Technician College	3.1 Students conduct study of job levels and levels of education and training for each level.	3.1 Collect career information from guidance office or local sources.

CLUSTER I: Agri-Business and Natural Resources

DEVELOPMENTAL AREA D: Economics

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To orient students to the economic aspects of careers in agri-business and natural resources.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The students should be able: 1. To rate investment necessary to become established in five selected careers in agri-business or the natural resources field.	1.1 Students research individually or in committees the cost of becoming established in these careers. 1.2 Speakers from agriculture talk to class concerning investment needed in their job. 1.3 Students draw comparison charts to show results of investment study.	1.1 Check with local extension office, agriculture loan department at bank or Production Credit office for information. 1.2 Check local resource list for speakers.
2. To list average and entry level salaries for at least five careers in agriculture in the student's area of interest.	2.1 Students interview agriculturalists about entry level and average salaries. 2.2 Students research agricultural occupational information for salaries.	2.1 Check resource speaker list. 2.2 Check with library and office for information.
3. To explain orally how careers in agricultural marketing rely on abilities in economics.	3.1 Students interview agricultural marketing worker, futures market worker or agricultural banker concerning economic principles used in careers.	3.1 Check with coordinator for speakers. 3.2 Check with library to place materials on shelves for students. 3.3 Consult with economist from local school or college for economic information relating to agriculture.
4. To list in order the agricultural careers involved in following a natural resource from raw material to finished product.	4.1 Students choose different resources, prepare market path and identify careers involved in process.	4.1 Provide list of resources for students. 4.2 Check with library for information or send for information.

CLUSTER I: Agri-Business and Natural Resources

DEVELOPMENTAL AREA E: Employability and Work Adjustment Skills

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To acquaint students with variations in agricultural careers based on differences in employee skills and daily work changes on the job.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1. To name ten agricultural careers based on work with— data people things	1.1 Students review careers in agriculture and categorize them based on involvement with data, people or things.	1.1 Check resource file for publications and care monographs.
	1.2 Students interview workers to find out the type of work they perform.	
2. To identify three careers in agriculture which require contacting and working closely with the public.	2.1 Students question speakers on "public contact" abilities needed in their careers.	2.1 Contact speakers work in high "public contact" careers.
	2.2 Students prepare lists of agricultural careers which require the ability to work closely with people.	
3. To prepare a written report comparing a career in agriculture which has daily changes to a career in agriculture which has little or no change in daily routine.	3.1 Students research literature to determine careers with great variety in daily procedures and careers with little or no variety.	3.1 Provide DOT and supplements.
		3.2 Check with library for job description materials.
	3.2 Students tour agricultural businesses and compare the activities of different jobs.	3.3 Set up field trips with local coordinator.

CLUSTER I: Agri-Business and Natural Resources

DEVELOPMENTAL AREA F: Decision-Making

OVERALL DEVELOPMENTAL OBJECTIVES NO. 2: To orient students to decision-making techniques and their application to career choice decisions.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To list five factors which he would consider in choosing a career.	1.1 Students discuss decisions to be made in selecting a career.	1.1 Check with library for information or decision-making.
	1.2 Students quiz agricultural workers on factors they would now consider in choosing a career.	1.2 Arrange for students to interview workers.
	1.3 Students prepare lists of factors to consider and compare lists with fellow students.	
2. To choose a sample agricultural career and list typical decisions to be made on the job which compare with typical school or personal decisions.	2.1 Students write a report showing comparison between decisions made on the job with decisions made as a student or family member.	2.1 Prepare hand out of typical decisions.
3. To rate a list of ten careers starting with those that require a great amount of decision-making skills to those requiring little or no decision-making skills.	3.1 Students research career monographs and career publications to determine level of decision-making skills required.	3.1 Provide career monographs and publications.
	3.2 Students question workers in agriculture concerning their use of decision-making skills.	

CLUSTER I: Agri-Business and Natural Resources

DEVELOPMENTAL AREA G: Self

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To orient the student to careers in agriculture which he feels would match his needs, wants, interests and abilities.

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1. To identify his strengths and weaknesses in terms of a career in agriculture.	1.1 Use interest survey techniques to determine interests.	1.1 Ohio Vocational Interest Survey (OVIS).
	1.2 Students prepare self-analysis reports in relation to an agricultural career.	1.2 "Who Am I" reports.
	1.3 Students prepare job charts and compare their interest to various jobs.	1.3 Set up an interview with school counselor.
	1.4 Field trips to various agricultural business to point out interesting jobs to students.	
2. To assess his own ability and name five opportunities available to him in agri-business or natural resources.	2.1 Students take ability tests measuring mechanical as well as mental ability.	2.1 Obtain aptitude and ability tests.
	2.2 Student visit classes offering training in agriculture including: 1. in-school classes 2. vocational school 3. technical schools 4. trade schools 5. college	
3. To list five needs he feels are important to him and see if these needs can be met by a career in agriculture.	3.1 Students discuss basic needs and list their needs in order of importance.	3.1 Use resource persons with several years of experience in agricultural careers.
	3.2 Students list the needs that can be met by a career in agriculture.	

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
	3.3 Students interview persons who have been employed in agricultural occupations concerning their satisfaction.	
4. To identify three careers in agriculture in which he feels he could become a well-adjusted, productive citizen.	4.1 Students should develop individual profiles and identify careers which would satisfy them.	4.1 Provide students with sample self-profiles and record sheets of interest and ability tests.

JOB CLUSTER II

ENVIRONMENT

JOB CLUSTER II

ENVIRONMENT

A. Rationale

Man is becoming more aware of the need for environmental protection because he is now able to see the results of a lack of concern. Air pollution, water pollution, the build-up of waste materials and the depletion of our natural resources are among the problems man has seen come forward as major concerns of this generation. We are realizing that we must work with our environment if we expect to survive on this earth. Many new and exciting career opportunities are developing in this field.

B. Environment in the Curriculum

Instructors should have little problem incorporating career information on environment into the science curriculum. Science courses normally include information on water, air, radiation, noise, and waste materials. Natural resources and related career information ties in with each of these areas easily. Language arts courses may include career information on environment through class debates, discussions, term papers, grammar, vocabulary, and literature. Students may explore careers in the environmental area through individual or group projects and information gained may be considered the communications phase of language arts.

Mathematics teachers may introduce career opportunities which require measurement skills, recording skills and formula skills as well as basic mathematical skills. Graphs of air pollution counts, depletion of resources or noise level graphs will show the student careers in environmental protection which require mathematic skills.

Teachers of other disciplines will find much current information available which will help blend information on opportunities in environmental protection into their instructional program.

Typical careers in the Environment cluster include:

Water Treatment Plant Maintenance
  Helper
Refuse Collector
Incinerator Operator
Park Helper
Treatment Plant Operator
Air Pollution Control Technician
Noise Measurement Specialist
Waste Water Technician
Sanitarian

Park Ranger Naturalist
Wildlife Manager
Field Health Officer
Biological Technician
Aquatic Biologist
Sanitary Engineer
Forest Ecologist
Organic Chemist

CLUSTER II: Environment

DEVELOPMENTAL AREA A: Individual and Environment

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To realize successful careers in environment are based on interests and abilities in the field of environment.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To list at least five interests needed for careers in environment.	1.1 Students view films showing abilities and interests needed in occupations in environment. 1.2 Students listen to speakers who describe interests and abilities needed in various environmental careers.	1.1 Check with audiovisual department for films available. 1.2 Check resource file for speakers who work in environmental careers.
2. To list at least five abilities needed for careers in environment.	2.1 Students observe workers in environmental occupations and observe abilities needed. 2.2 Students check job descriptions in career literature.	2.1 Take field trips and make personal visits. 2.3 Check with guidance office, library, and other sources for materials.

CLUSTER II: Environment

DEVELOPMENTAL AREA A: Individual and Environment (Cont.)

OVERALL DEVELOPMENTAL OBJECTIVE NO. 2: To realize the application of school subjects to careers in environment as well as to one's present life environment.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student will be able: 1. To describe in writing the relationship between school subjects and three present and/or future jobs in environment.	1.1 Students participate in field trips to discover jobs that have direct correlation to specific school subjects.	1.1 Check with coordinator for list of possible field trips.
	1.2 Students discuss the usefulness of school subjects in preparing for specific careers in environment.	1.2 Check local resources file for speakers who work in environmental careers.
	1.3 Students interview a worker in environment to determine need for skills learned in school subjects.	

CLUSTER II: Environment

DEVELOPMENTAL AREA B: World of Work

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To introduce students to careers available in the field of environment and environmental protection.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To list ten careers which have developed in the last five years as a result of the environmental emphasis.	1.1 Students research recent occupational information to determine newly developed occupations.	1.1 Obtain copies of *Occupational Outlook Handbook* and DOT.
	1.2 Students interview environmental protection workers to determine job opportunities.	1.2 Obtain current government publications in area of environment.
	1.3 Field trips to agencies working in environmental protection.	1.3 Check local resources file for a list of workers in environmental protection.
2. To identify ten jobs in the local area connected with environment.	2.1 Students visit local employment agencies.	2.1 Arrange for visits and interviews.
	2.2 Students interview employers for job lists.	
3. To list three trends in employment in environmental protection and explain the basis for these trends in our society.	3.1 Students compare the number and types of jobs in environmental protection today with those in existence 50 years ago.	3.1 Provide United States Department of Labor employment information for students.
	3.1 Students research and chart trends in employment.	
	3.3 Students write letters to state and federal agencies requesting information.	

CLUSTER II: Environment

DEVELOPMENTAL AREA C: Education and Training

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To introduce students to and help them explore the educational and vocational qualifications in the field of environment at the present time and in years to come.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1. To name the educational requirements for at least three occupations in environmental protection.	1.1 Students research the educational requirements for careers in which they are interested.	1.1 Provide technical school and college handbooks.
	1.2 Students question resource speakers regarding the amount of education needed to obtain entry-level jobs.	1.2 Check local resource file for brochures on careers in environment.
2. To explain the relationship between what he is currently studying and possible future environmental occupations.	2.1 Students interview persons employed in environmental occupations to discover the usefulness of courses in school.	2.1 List of persons employed in occupations dealing with environment.
	2.1 Students discuss the need for specific courses in various occupations.	

CLUSTER II: Environment

DEVELOPMENTAL AREA D: Economics

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To become knowledgeable about the economic aspects of careers in the field of environment.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1. To list three aspects of an occupation in environmental protection which involve the knowledge of economics.	1.1 Students discuss occupations in environment in relation to economic factors.	1.1 Prepare list of economic principles that relate to occupations.
	1.2 Students interview workers concerning need for economic abilities in their occupation.	1.2 Check resource file for speakers.
	1.3 Students view films on careers in environment and discuss economic factors represented.	
2. To list average salaries for at least three careers in environment that are in the student's area of interest.	2.1 Students research average salaries and prepare comparison charts.	2.1 Check with guidance office for salary information.
	2.2 Students interview workers in environment concerning salary levels.	2.2 Check with local employment service for facts and figures on salaries.
3. To determine economics of preparation—education, equipment—necessary to enter at least five difficult jobs in environment.	3.1 Visit workers in environment and learn of their requirement.	3.2 Secure career literature from library and guidance office.
	3.2 Study career materials for environmental jobs.	

CLUSTER II: Environment

DEVELOPMENTAL AREA E: Employability and Work Adjustment Skills

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To orient students to differences in careers in environment based on employee attitude and ability to make on-the-job adjustments.

The student should be able:

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
1. To list five careers in environment which require the ability to meet and deal with the public.	1.1 Students prepare reports on careers which demand that workers possess "meeting the public" abilities. 1.2 Students interview workers who hold down occupations which require a great deal of public contact.	1.1 Check with coordinator for career information. 1.2 Check local resource file for list of speakers.
2. To compare the five careers above with five careers which do not require a great deal of public contact.	2.1 Students view film on careers in environment and compare differences in relation to dealing with the public.	2.1 Check with audiovisual department for film on environmental careers.
3. To prepare a written report on one career which requires few daily job adjustments compared to one career which requires frequent adjustments.	3.1 Students research job adjustments in careers in environment. 3.2 Students interview workers concerning daily changes in their job.	3.1 Have copies of DOT and supplements available. 3.2 Check resource file for speakers.

CLUSTER II: Environment

DEVELOPMENTAL AREA F: Decision-Making

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To evaluate careers in the field of environment on the basis of amount of decision-making ability required.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To identify three careers in the environmental field that require little decision-making ability and three that require much decision-making ability.	1.1 In library or guidance office, students research information.	1.1 Notify library and guidance office so materials will be available.
	1.2 Students compare information presented by various sources, such as U.S. Government and commerical publications.	1.2 Collect publication and develop in-room library.
2. To list three decisions to be made concerning the selection of a career in environment which could be affected by decision-making ability.	2.1 Students prepare job analysis forms and compare with test results such as OVIS, GATB, or other reliable survey tests.	2.1 Check with guidance department for test results.

CLUSTER II: Environment

DEVELOPMENTAL AREA F: Decision-Making

OVERALL DEVELOPMENTAL OBJECTIVE NO. 2: To develop abilities to choose careers in environment based on decision-making qualities.

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1. To list five careers in environment which call for decision-making abilities possessed by the student, and five careers which utilize abilities which are not possessed by him.	1.1 Students research requirements for careers in environment and compare with their own interests and abilities.	1.1 Check to see if library has material listing career requirements.
	1.2 Students are given interest survey tests.	1.2 Consult DOT and other materials for worker trait requirements.
	1.3 Students confer individually with teacher or guidance counselor on ability level.	1.3 Teachers or counselors prepare student profiles.
2. To make decisions on the choice of three careers which fit his interests and abilities and three that do not fit his interests and abilities.	2.1 Field trips to various places which would show students many levels of occupations in environment.	2.1 Check with coordinator to set up field trips.

CLUSTER II: Environment

DEVELOPMENTAL AREA G: Self

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To orient students to careers which will match their interests, temperament, and abilities.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The students should be able:		
1. To list five careers which match his individual interests.	1.1 Students compare expressed interests with interests as identified by tests such as OVIS.	1.1 Check with guidance department for interest test results.
	1.2 Students compare interests with worker trait information on careers in environment.	1.2 Check with library for DOT and supplements.
2. To identify five careers in which his temperament would cause problems.	2.1 Students develop a profile of their temperaments.	2.1 Check with counselor for sample profiles.
	2.2 Students develop role-playing situations which display their temperaments in conflicts with career requirements.	
3. To orally describe one career which matches favorably with his ability.	3.1 Student researchs career requirements and matches one career with his personal abilities.	3.1 Confer with counselor for ability test results.

CLUSTER II: **Environment**

DEVELOPMENTAL AREA G: Self

OVERALL DEVELOPMENTAL OBJECTIVE NO. 2: To orient students to careers in environment which would match their personal qualities.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The students should be able: 1. To identify his personal abilities and interests.	1.1 Students identify needs to be met by a career.	1.1 Prepare lists of human needs.
	1.2 Students discuss the needs that can be met by specific careers in environmental protection.	1.2 Check with coordinator for information that explains the advantages offered by careers in environments.
	1.3 Students prepare comparisons of their needs and the needs that can be met by careers in environment.	
	1.4 Students visit and interview several persons working in environmental jobs to observe and compare needs satisfaction.	
2. To identify his personal strengths and weaknesses.	2.1 Use standard tests, such as OVIS.	2.1 Teacher leads class discussion on determination, abilities, and interests.
	2.2 Prepare a self-analysis study.	
3. To list five careers which require the traits that he identifies as important.	3.1 Use standard tests, such as GATB.	3.1 Guidance office administers and interprets tests.
	3.2 Prepare a self-analysis study.	

JOB CLUSTER III

HEALTH

JOB CLUSTER III

HEALTH

A. Rationale

Health occupations constitute one of the largest service occupations clusters in the country. The educational and other requirements for work in the health field are as diverse as the health occupations themselves. The opportunities and demand for workers in this field will increase in direct proportion to increasing demands for health care.

B. Health Occupations in the Curriculum

Since occupations in the health field are so diverse, orientation to these occupations can be effectively handled in most subject areas. Vocabulary can be an important part of science classes and the art instructor can assist by handling the illustrative work. In social studies classes, health service needs can be analyzed for amount and kind. In schools where occupational clusters are referred to curriculum areas in their entirety, the health cluster is often covered by the science area.

Typical careers in Health include:

- Hospital Superintendent
- Systems Analyst
- Department Heads of Hospital
- Personnel Intern
- Medical Communicator
- Hospital Guide
- Hospital Receiving Clerk
- Medical Record Technician
- Medical Record Librarian
- Medical Librarian
- Medical Illustrator
- Medical Secretary
- School Physicians
- Clinical Physicians
- Visiting Nurse
- L.P.N., R.N.
- Hospital Aides
- Physicians
- Assistants
- Technicians
- Clerical Personnel
- Nursemaid
- Midwife
- Child Care Attendant
- Psychiatric Aide
- House Mother
- Gynecologist
- Pediatrician
- Home Attendant
- Companion
- Practical Nurse
- Dental Hygienist
- Dental Assistant
- Dentist, Orthodontist
- Oral Surgeon, Oral Pathologist
- Pedodontist
- Prosthodontist
- Dental Laboratory Technician
- Dental Ceramist
- Denture Waxer
- Dental X-ray Film Assembler
- Crown and Bridge Technicians
- Pharmacologist
- Pharmaceutical Bacteriologist
- Pharmaceutical Compounding Supervisor
- Pharmacy Helper
- Pharmacist
- Sterile Products Processor
- Senior Pharmaceutical Operator
- Druggist
- Pharmaceutical Salesman
- Hospital Pharmacist
- Bacteriologist
- Cytotechnologist
- Biologist, Micro-biologist
- Physicist
- Chemist, bio-chemist
- Psychiatric Social Worker

CLUSTER III: Health

DEVELOPMENTAL AREA A: Individual and Environment

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To realize that successful careers in health are based on certain interests and abilities.

PERFORMANCE OBJECTIVES	ACTIVITIES:	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1. To list at least five interests needed for a career in the health field.	1.1 Show several films depicting health careers to the class.	1.1 Check with local audiovisual department for films.
	1.2 Have students list the types of interests that they observed in the film.	1.2 Consult local resource file for health speakers.
	1.3 Invite a team of health workers to talk about their interests.	
2. To list at least five abilities needed for a career in the health field.	2.1 Invite an employment officer from a local hospital to describe the abilities needed for health careers.	2.1 Consult local resource file for speakers and field trips.
	2.2 Arrange for students to visit local hospitals, veterinary clinics, doctor's offices, and health clinics to observe the workers and the skills that they need.	

CLUSTER III: Health

DEVELOPMENT AREA B: World of Work

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To identify career opportunities in the health services within the local community.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1. To name five health career jobs available in his community and specify two requirements for each job.	1.1 Have students visit health agencies and talk with staff.	1.1 Consult local resource file for health field jobs.
	1.2 Students research jobs to learn requirements.	1.2 *Occupational Outlook Handbook* and other related resources from media center.
2. To demonstrate ability to find job opportunities using the classified section of the newspaper.	2.1 Discuss arrangements of want ads and have students practice finding jobs.	2.1 Provide newspapers for references.

CLUSTER III: Health Occupations

DEVELOPMENTAL AREA C: Education and Training

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To acquaint students with educational requirements for jobs in the health services.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1. To name three health jobs which require a high school diploma, and three which require technical training or a college degree.	1.1 Students research educational requirements for various health careers.	1.1 *Occupational Outlook Handbook, DOT* and related career materials.
	1.2 Students divide into teams to practice classifying jobs.	1.2 Consult local resource file for speakers.
2. To list the training and other qualifications for at least three health service jobs.	2.2 Each student researches three vocations.	2.1 Use materials in library or guidance office, such as leaflets, films, and so forth.
	2.2 Invite persons in health careers from local health agencies to speak to students concerning job requirements.	

CLUSTER III: Health

DEVELOPMENTAL AREA D: Economics

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To understand the economic levels of different careers in health occupations, and how they effect health costs.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1. To list the salaries of three health service workers and indicate the source of money for these salaries.	1.1 Invite a representative from a hospitalization insurance company to explain health care costs.	1.1 Consult local resource file for speakers.
	1.2 Students visit finance office of local hospitals to discover costs of various occupations and services and how these costs are determined.	
	1.3 Students make graphs to illustrate health care costs.	
2. To determine the costs to become prepared for three different-level careers in health occupations and the salary level which may be reached.	2.1 Students visit health occupations personnel and discuss preparation and salary.	2.1 Provide information in library and guidance office.
	2.2 Review career information literature.	2.2 Arrange field trips for students.
		2.3 Have resource persons visit class.

CLUSTER III: Health Occupations

DEVELOPMENTAL AREA D: Economics (Cont.)

OVERALL DEVELOPMENTAL OBJECTIVE NO. 2: To understand how health service costs are determined and how each individual is affected.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To list the salaries of three health service workers and indicate the source of money for these salaries.	1.1 Invite a respresentative from a hospitalization insurance company to explain health care costs.	1.1 Consult local resource file for speakers.
	1.2 Students visit finance office of local hospitals to discover costs of various services and how these costs are determined.	
	1.3 Students make graphs to illustrate health care costs.	

CLUSTER III: Health Occupations

DEVELOPMENTAL AREA E: Employability and Work Adjustment Skills

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To broaden the student's knowledge of the skills necessary for getting and holding a job in the health field.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1. To name five local agencies or institutions which hire health workers.	1.1 Students search yellow pages of telephone directory and write application letters to local health agencies.	
2. To accurately complete a job application form.	2.1 Students practice completing job applications and discuss techniques.	2.1 Provide sample job application forms from local firms.
3. To identify and list the characteristics of a good resume.	3.1 Students write resumes and discuss.	
4. To determine the job characteristics of at least three jobs in health occupations and relate them to his personal abilities and interests.	4.1 Students visit jobs of possible interest and evaluate.	4.1 Teacher requires written summary of findings. 4.2 Contact speakers for appearance in class.

CLUSTER III: Health Occupations

DEVELOPMENTAL AREA F: Decision-Making

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To develop the student's ability to evaluate jobs in keeping with interests and aptitudes.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1. To choose a job area, gather facts related to that job and determine whether he might be happy in that job.	1.1 Construct a schema of job attributes which students can use as a checklist in individual research.	1.1 Provide career publications, films and other aids.
	1.2 Role-play various health occupations of an emergency call nature to portray life styles.	1.2 Arrange field trips or after-hours conference with workers in the industry.
2. To demonstrate ability to compromise by researching two other job areas that he esteems less highly.	2.1 Construct situations which demonstrate how compromise is useful.	
3. To evaluate three jobs in terms of amount of decision-making ability required.	3.1 Students discuss with on-job employees.	3.1 Field trips and/or resource persons.
	3.2 Students evaluate their personal abilities to make decisions.	

CLUSTER III: Health Occupations

DEVELOPMENTAL AREA G: Self

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To enable each student to examine and analyze his temperament and personality traits in relationship to career choices.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1. To describe his personality and match it with three health occupations.	1.1 Students, working in teams, describe their own and each others' personalities, using adjectives.	1.1 *Occupational Outlook Handbook* and Occupation monographs.
	1.2 Have students research job personality compatibility.	
	1.3 Have students develop skits and role-play persons in various jobs.	
2. To determine whether his interests, aptitudes, and abilities are commensurate with those of practicing health workers.	2.1 Students complete various interest inventories and achievement tests and have results interpreted.	2.1 Teacher determines which tests are relevant.
	2.2 Invite people in health occupations to speak to students about their work and interests.	2.2 Teacher arranges for appropriate films and other desirable informational sources.
	2.3 Students research selected occupations in the school library.	

JOB CLUSTER IV

MARINE SCIENCE

JOB CLUSTER IV

MARINE SCIENCE

A. Rationale:

Man is continually searching for new and better ways to supply his needs. As these needs have become more exhaustive, he has turned to the sea. The result has been the birth and growth of a large group of marine science occupations which are designed not only to meet present-day needs, but to explore the endless potential of the sea and beneath the sea.

Employment has grown rapidly in the marine sciences in the past decade and is expected to continue to make a steady growth. Much of this growth is spurred by federal government-sponsored research and development. It would seem that marine science has as much future as an occupational area as it does as a future 'cornucopia.'

B. Marine Science in the Curriculum:

Integration of the study of marine science occupations into the curriculum should pose no serious problems. The implications for science are obvious—water, sealife, pollution control, mineral reserves, and plant life. The art instructor could be immensely helpful by working hand-in-hand with the science instructor. In home economics, preparation and sale of seafood with all of the business implications could be studied. Instrumentation used in shipping and fishing offers avenues for instructional exploration in mathematics.

Social studies teachers might well view marine science in terms of units on sociological and economic problems of water pollution, the fishing industry, untapped food sources, and effects of an economical desalinazation process. Occupations are available in these areas.

These are merely suggestions. Teachers of other disciplines should have no trouble conceptualizing ways of integrating this cluster.

Typical careers in Marine Science include:

Marine Science Manager
Ship's Master
Marine Engineer
Port Engineer
Chief Mate
Officers
Marine Engineer
Inspector
Foreman
Chief Steward
Personnel Specialist
Mates
Assistants
Unlicensed Crewmen
Microbiologist
Fishery Bacteriologist
Zoologist
Ichthylogist
Botanist
Plant Taxonomist
Laboratory Supervisor
Fish Icer
Fish-cake Maker
Fish-cleaner
Fish-cutter
Food-fish culturist
Game-fish Culturist
Shellfish Grower
Frog Grower
Plant Nematologist
Plant Cytologist
Sponge Hooker
Fish Culturist
Fish Hatchery Foreman
Hatchery Superintendent
Pisciculturist
Diving Fisherman
Marine Mechanic/Repairman
Deck Engineer
Motorboat Mechanic
Marine Engine Machinist
Boatswain

Laboratory-Sample Carrier
Marine Biologist
Aquatic Biologist
Marine Ecologist
Net, Seine, Trap Fisherman
Line Fisherman
Miscellaneous Gear Fisherman
Fish-bin Tender
Fish Broiler
Electronic Specialist
Seaman
Deckhands
Captain
Longshoreman
Quartermaster
Physical Oceanographer
Geological Oceanographer
Mineralogist
Chemical Oceanographers
Marine Geologist
Marine Meteorologist
Oceanographic Engineers

CLUSTER IV: Marine Science

DEVELOPMENTAL AREA A: Individual and Environment

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To help the student understand the relationship of marine science careers to the individual and his environment.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To list ten marine science occupations and the effect they have on our way of life.	1.1 After asking students to list jobs that are related to marine science, have them research these and other related jobs to learn about the contributions of marine science.	1.1 Consult audiovisual department for materials.
	1.2 Show a movie depicting one of the marine sciences.	
2. To name three specific marine science occupations and describe in detail what each does.	2.1 Have teams of students interview marine science workers to determine job possibilities.	
	2.2 Show several films on marine science careers and have students create a list of the careers shown.	
3. To describe three trends in environmental concerns and the implications for employment patterns in the next ten years.	3.1 Show films on environment.	3.1 Secure resource persons.
	3.2 Have company representatives speak to class on ecology.	3.2 Secure list of legislators from local state or national politics offices.
	3.3 Have students write to appropriate legislators.	

CLUSTER IV: Marine Science

DEVELOPMENTAL AREA B: World of Work

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To become knowledgeable about marine science careers and their interdependence with other careers in our society.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To name at least five marine science occupations that could be found in Ohio.	1.1 Each student researches a marine science occupation and reports findings to class.	1.1 Consult local resource file for field trips and resource persons related to marine science.
	1.2 Class takes a field trip to local acquarium.	
	1.3 Invite persons employed in marine science jobs to be interviewed by students.	
2. To explain orally the interdependence of five marine science occupations.	2.1 Class will discuss the interdependence of jobs.	2.1 Secure films for student information.
	2.2 Groups of students can draw charts showing interdependence of jobs.	

CLUSTER IV: Marine Science

DEVELOPMENTAL AREA C: Education and Training

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To help students learn about the variety of marine science occupations and their training and educational requirements.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To name three marine occupations and describe their educational requirements.	1.1 Students research various marine science occupations and report to class.	1.1 Obtain educational requirements from US Governmental office.
	1.2 Students will prepare scrapbooks of occupations with education and training requirements listed.	1.2 Provide DOT and related references.
	1.3 Students make posters describing occupations and exhibit them in classes and corridors.	
2. To describe the training required for at least three economic (salary) levels of occupations.	2.1 Students interview employees in management as well as labor levels and discuss requirements.	2.1 Teacher arranges for student trips or personal visits.

CLUSTER IV: Marine Science

DEVELOPMENTAL AREA D: Economics

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To realize the importance of marine science careers to the economy and become familiar with the salary levels of careers in marine science.

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1. To name three careers in marine science that contribute greatly to our nation's economy.	1.1 Students graphically illustrate marine occupations and resultant economic implications.	1.1 Provide governmental and other related publications.
2. To describe orally three ways that individuals contribute to the economy as a result of marine science.	2.1 Students develop a list of items that people may purchase that are directly related to marine science.	
	2.2 Create a collage of pictures of marine science occupations and the products produced.	
3. To relate investment necessary to become established in five different careers in marine science.	3.1 Students interview employees on the job.	3.1 Teacher arranges visits.
4. To list salaries for at least five careers in management, mid-management and labor levels.	4.1 Students interview employees on the job.	4.1 Teacher arranges visits.

CLUSTER IV: Marine Science

DEVELOPMENTAL AREA E: Employability and Work Adjustment Skills

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To recognize the importance of good human relations and job adjustments in getting and keeping a job in Marine Science.

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To list five personal do's and five don't's pertaining to getting and keeping a job.	1.1 Students should become familiar with job performance standards through research and discussion. 1.2 Invite a personnel director or public relations person to talk to students about holding a job.	1.1 Provide adequate reference materials. 1.2 Consult local resource file for speakers.
2. To conduct himself properly in an oral interview.	2.1 Have skits to demonstrate "right" and wrong" interview behavior.	3.1 Secure information from films and career literature.
3. To identify the job requirements for at least five careers in marine science.	3.1 Use public relations person mentioned above.	3.1 Secure information from films and career literature.
4. To determine the extent of versatility and adjustment ability required in five different careers in marine science.	4.1 Students observe employees and record different tasks performed.	4.1 Arrange for case study of employees by students.

CLUSTER IV: Marine Science

DEVELOPMENTAL AREA F: Decision-Making

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To develop in the student an understanding of the decision-making process as it relates to choosing a career.

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The students should be able: 1. To indicate on a check list criteria he would use in making a decision concerning a marine science career.	1.1 As a class or in small groups, students will work together to construct criteria by which they will make career decisions.	1.1 Develop criteria for decision-making as class project.
	1.2 Students practice making decisions which are evaluated for objectivity by other students and teachers.	
2. To rank five careers in marine science in order of amount of decision-making ability required.	2.1 Students research career monographs and career publications to secure information.	2.1 Teacher searchs out and secures appropriate items for student use.
	2.2 Students interview employees.	

CLUSTER IV: Marine Science

DEVELOPMENTAL AREA G: Self

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To realize the degree to which self-concept, interests and, abilities can affect job performance.

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1 To analyze his own personality and show how it relates to his own success in school	1.1 Students interview persons holding jobs and discuss self-concept.	1.1 Consult local resource file for speakers.
	1.2 Involve students in examination and discussion of psychological needs of work (satisfaction, etc.).	1.2 Contact guidance personnel for administration of appropriate tests (as GATB)
2. To relate personality types and probable successful job performance for five jobs.	2.1 Ask students to build an adjective-noun schema to show probable job success. For example: Outgoing—Public Relations Expert.	2.1 Teacher have class unit on personal qualities.
3. To analyze his own interests and apply this to job selections.	3.1 Students take OVIS test to determine interests.	3.1 Teacher arranges to give OVIS.
	3.2 Students write a self-analysis and then identify possible jobs that might be appropriate.	
4. To assess his own ability and realistically relate this to job selection.	4.1 Students do class project on self-evaluation.	4.1 Teacher conducts short unit on self-evaluation.

JOB CLUSTER V

COMMUNICATIONS AND MEDIA

JOB CLUSTER V

COMMUNICATIONS AND MEDIA

A. Rationale:

Communication is the basis for promoting good human relations in society. It is also the means for transferring and recording knowledge whereby technology may progress. With this progression comes a greater demand for personnel to fill a variety of positions in communications and the media used in the process of communications. In the communications cluster we have equipment and media, people involved in creating ideas, and people involved in processing ideas. Jobs are classified in three categories: those involving data or ideas, those involving people, and those primarily concerned with things.

B. Relationship with subjects:

Communication is primarily to the field of language arts in this unit, even though it is a part of every subject taught. Communication will be touched upon in the areas of written and spoken communication. Much communication is found in arts and humanities.

Typical careers in Communications and Media include:

- Advertising Executive
- Commercial Artist
- Illustrator
- Draftsman
- Sign Painter
- Printer
- Duplicating Machine Operator
- Compositor
- Press Operator
- Plate Maker
- Bookbinder
- Purchasing Agent
- Printer
- Typists
- Machine Repairmen
- Editor
- Technical Writer
- Free-lance Writer
- Reporter
- Cartoonist
- Deliverymen
- Postal Carriers
- Salesman
- Station Manager
- Broadcast Technician
- Producer
- News Broadcaster
- Advertising Salesman
- Radio-Telegraph Operator
- Communications Engineer
- Field Engineer
- Service Observer
- Equipment Installer
- Testing and Regulating Technician
- Electrician
- Cable Repairman
- Program Director
- Producer
- Traffic Manager
- News Editor
- News Broadcaster
- Advertising Sales Executive
- Receptionists
- System Analyst
- Computer Programmer
- Computer Operator
- Telegraph Operator
- Morse Operator
- Cable Engineer
- Engineer, Communication
- Service Representative
- Local Operator
- Long Distance Operator

CLUSTER V: Communications and Media

DEVELOPMENTAL AREA A: Individual and Environment

DEVELOPMENTAL GOAL NO. 1: To aid the student in interpreting the importance of communications and media to society and the individual.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To list three occupations in communications which society is dependent upon.	1.0 Students will prepare a list of methods of communication used today.	1.1 Consult local resource file for speaker and field trips to telephone company.
	1.1 Have a speaker from the telephone company speak to the class on the role of the telephone and service to society.	1.2 Collect magazines for pictures. 1.3 Provide *DOT* for student reference.
	1.2 Visit telephone company to observe its operations.	
	1.3 Make a bulletin board showing methods of communication and variety of occupations reviewed.	
	1.4 Prepare a chart showing careers in communications needed by business and society.	
	1.5 Make a job tree of communications workers including supervisors, operators, service installators, teachers, etc.	
2. To list five stages in the development of communication and five resulting occupations.	2.1 Using social studies book, students locate and list at least two types of communication and occupations provided by each of the following: Stone age and primitive man	2.1 Provide social studies texts. 2.2 Secure related material about the telephone system, radio and television, and communications satellite.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
	Medieval Period of dark ages. Societies of Renaissance U.S. in 1940 U.S. in 1970	
3. To list at least twenty communications occupations which exist today but which were not present in 1900.	3.1 Look in *DOT* for jobs in telephone, telegraph, radio and television.	3.1 Provide *DOT* for class reference.
	3.2 Create a list of jobs that were not in existence at the beginning of the century.	3.2 Contact a representative of the New York Stock Exchange for information on the communications satellites and related jobs.
	3.3 Construct a list of new jobs in data processing and satellite communications.	3.3 Consult local resources file for needed information.

CLUSTER V: Communications and Media

DEVELOPMENTAL AREA B: The World of Work

DEVELOPMENTAL GOAL NO. 1: To aid the student in obtaining information about occupational opportunities in communications and media in his community.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student will be able: 1 To list in writing two important reasons for career orientation, and its relation to occupations in the world of work.	1.1 Discuss the importance of setting goals for one's self in life, even though these goals change with maturity.	1.1 Provide related reference materials.
	1.2 Divide into groups of four or five to discuss what type goals students consider more important.	
	1.3 Have each student list two reasons for studying about careers.	
2. To list and define three occupations in communications.	2.1 Have each student select three occupations from a given list.	2.1 Provide list of communication careers from *DOT*.
	2.2 Read career stories from booklets and fiction books related to communications careers.	2.2 Provide booklets on careers and fiction reading list.
	2.3 Have buzz sessions in which students describe interesting sections of the book.	2.3 Provide tape recorder and tapes for interview.
	2.4 Interview people in the community involved in communications.	
	2.5 Play tapes in class and discuss the variety of jobs held.	
	2.6 List on board all occupations reported by students.	
	2.7 Have each student select one job from the list in 2.5 and write a paragraph describing that job.	

CLUSTER V: Communications and Media

DEVELOPMENTAL AREA C: Education and Training

DEVELOPMENTAL GOAL: NO. 1: To become familiar with the skills and proficiencies needed for occupations in the areas of oral and written communication.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1. To list the educational requirements of at least five occupations in the area of communications.	1.1 Invite representatives from local business, colleges, and data processing firm to explain training required.	1.1 Consult local resource file on field trips.
	1.2 Show film on careers in data processing and have students list careers.	1.2 Check with audiovisual department for films.
	1.3 Have each student select five jobs and give educational requirements of each.	1.3 Provide educational catalog for reference.
2. To identify and use the skills needed to qualify for at least three jobs in written communications.	2.1 Discuss requirements for written communications positions with personnel representative from Ohio State Employment Office.	2.1 Contact Ohio State Employment Office for speaker.

CLUSTER V: Communications and Media

DEVELOPMENTAL AREA C: Education and Training

DEVELOPMENTAL GOAL NO. 2. To acquaint students with job requirements of persons engaged in communications.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To define the tasks of three persons engaged in communications and identify the education required.	1.1 Students discuss and list duties performed by a commercial artist.	1.1 Provide commercially prepared references.
	1.2 Invite a local commercial artist to discuss his training and education with students.	1.2 Consult local resource file for commercial art personnel.
	1.3 View film on commercial art careers.	
2. To determine the training requirements of at least five employees in communications.	2.1 Have groups of students prepare or give a report on specific training needed by a commercial artist.	2.1 Arrange per career literature through library.
	2.2 Students interview employees to determine their training levels.	2.2 Arrange student visits to industry.

CLUSTER V: Communications and Media

DEVELOPMENTAL AREA D: Economics

DEVELOPMENTAL GOAL NO. 1: To orient the student to economics in communications and media occupations.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIAL
The student should be able: 1. To construct a chart or graph showing investments in training and/or materials needed in at least five careers in Communication.	1.1 Discuss the production of the school newspaper and list cost of equipment needed by owner.	
	1.2 Obtain the sales figures from a recent paper issue and compare with investment.	
	1.3 Have each student make a graph showing this information.	
2. To list beginning and average salaries for five careers in communications.	2.1 Interview employees.	2.1 Select companies for interviews and make arrangements.
	2.2 Make summary charts or graphs.	

CLUSTER V: Communications and Media

DEVELOPMENTAL AREA E: Employability and Work Adjustment Skills

DEVELOPMENTAL GOAL NO. 1: To help the student become knowledgeable about employability requirements in communications careers.

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1. To list at least three ways of making a favorable impression in a job interview.	1.1 Invite a personnel interviewer to discuss the importance of the job interview.	1.1 Consult local resource file for speakers.
	1.2 Role-play a job interview in the classroom.	1.2 Provide list of typical interview questions.
2. To identify two sources of temporary and two sources of long-term employment and tell what qualities are most useful and why.	2.1 Invite representatives from Ohio State Employment Bureau and private employment agencies to talk to the class.	2.1 Consult local resource file for field trips.
	2.2 Students canvass school neighborhoods for help wanted and list available jobs.	
	2.3 Students write letters of inquiry on available jobs in communications.	
3. To list at least five qualities he possess which would make him employable in communications careers.	3.1 Students do a self-analysis in terms of job interests and abilities.	3.1 Arrange for OVIS.
4. To evaluate his own ability to adjust in a career with a variety of tasks.	4.1 Student analyzes his own abilities to adjust.	4.1 Arrange trips to industry or resource persons to class.

CLUSTER V: Communications and Media

DEVELOPMENTAL AREA F: Decision-Making

DEVELOPMENTAL GOAL NO. 1: To help the student realize there are many possibile work choices based upon his own interest and abilities.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To list and define his personal qualifications and suitability for work in communications and media.	1.1 Fill out sample application for a job and resume for class.	1.1 Provide application forms and resume forms.
	1.2 Discuss the qualifications for careers in communications—written, verbal, and service installation.	1.2 Obtain enough social security applications for the class.
	1.3 Role-play various careers such as job applicant, personnel manager, teacher, principal, radio announcer, actor, model, and others.	
	1.4 Have each student complete a social security application.	
	1.5 Ask each student to select a possible work interest based upon his interest and capability.	
2. To identify three careers in communications that require little decision-making ability and three that require much decision-making ability.	2.1 Students research career literature.	2.1 Arrange literature and resource persons.
	2.2 Have employer visit class to discuss career requirements.	

CLUSTER V: Communications and Media

DEVELOPMENTAL AREA G: Self

DEVELOPMENTAL OBJECTIVE NO. 1: To aid the student in understanding himself in relation to his career interests and capabilities.

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIAL
The student should be able: 1. To choose three possible careers based on an understanding of his personal qualities.	1.1 Administer and interpret OVIS or other interest inventory.	1.1 Check with guidance department for time needed to administer and interpret interest inventories and aptitude tests.
	1.2 Administer and interpret GATB or other aptitude tests.	
	1.3 Discuss the importance of the following factors: interest developed abilities scores performance in related objectives job potential salary potential fringe benefits congruency with one's value system.	
	1.4 Discuss test profile and interest with student.	
	1.5 Ask guidance counselor to discuss relationship of interest inventory and the individual's value system.	
2. To describe his "real self" and adaptation to communications and media careers.	2.1 Students write self-evaluation.	2.1 Have OVIS and GATB results available.
	2.2 Have group evaluation sessions for each student.	

JOB CLUSTER VI

BUSINESS AND OFFICE

JOB CLUSTER VI

BUSINESS AND OFFICE

A. Rationale

Business and office workers are found within every field of employment whether private or governmental, large or small. Business employees perform many varied and specialized functions and make decisions that directly contribute to the success or failure of the business enterprise. Office employees are responsible for the magnitude of paperwork generated by businesses today. They operate business machines and handle all forms of internal and external communications. Many jobs in this cluster require a high degree of specialization and training while others require very little experience and education. In 1970 there were over 13 million people employed in clerical occupations and seven out of ten of these workers were women. One out of five clerical workers is employed as a secretary or stenographer.

B. Business and Office Occupations in the Curriculum

Business and office careers relate closely to the mathematics and typing curriculum. The skills and accuracy needed in these subjects have a direct application to the jobs in this cluster. Because many of these jobs require good spelling and grammar and reading comprehension in addition to arithmetic skills, language arts instructors can easily relate this cluster to their subject area. Social studies classes can discuss the importance of good interpersonal relations and learn about different forms of business organization. A review of the occupational flow charts can assist the instructors of other subjects in relating business and office careers to their curriculum. (See Appendix)

C. Typical careers in Business and Office include:

Appointments Secretary
Receptionist
Legal Secretary
Foreign Language Stenographer
Clerk Stenographer
Contract Clerk
Settlement Clerk
Waybill Clerk
General Machine Operator
Computer Operator
Certified Public Accountant
Manager of Public Affairs
Branch Manager
Identification Clerk

Tax Accountant
General Bookkeeper
Key Punch Operator
Business Programmer
Stock Superintendent
Conciliator
Office Manager
Cost and Sales Records Supervisor
Budget Officer
Treasurer
Systems Analyst
Store Manager
Regional Manager
Publications Supervisor
Personnel Recruiter

CLUSTER VI: Business and Office

DEVELOPMENTAL AREA A: Individual and Environment

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To help students realize that successful business and office careers are based on certain abilities and interests.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To prepare a chart showing the most common interests and abilities needed in business and office careers.	1.1 Students prepare a chart listing all of the interests and abilities found and the frequency of each.	
	1.2 Ask a panel of students to discuss the interests and abilities needed for most business and office careers.	
2. To list at least five interests needed for a successful career in business and office.	2.1 Class should view films of business and office workers and list interests noted.	2.1 Check local audiovisual department for related films.
	2.2 Students interview an office worker to find what interests he has that correspond to his job.	2.2 Check local resource guide for speakers.
	2.3 Students research several business and office careers to find interests.	2.3 Provide *DOT* and related pamphlets and kits.
3. To list at least five abilities needed for a successful business and office career.	3.1 Tour local business and note basic skills and abilities being used.	3.1 Consult local resource guide for field trip and speakers.
	3.2 Students research several careers and list abilities required.	3.2 Provide *DOT* monographs or kits, and career pamphlets.
	3.3 Students interview personnel worker to find what abilities are expected of new employees.	

CLUSTER VI: Business and Office

DEVELOPMENTAL AREA B: World of Work

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To orient students to the numbers and types of business and office careers available in the world of work.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1. To match the numbers of people employed in business and office occupations and at least ten different types of careers available.	1.1 Students study career literature and prepare a summary paper.	1.1 Teacher arrange for literature from library or guidance office.
2. To illustrate how at least three business and office careers related to other segments of the world of work.	2.1 Students refer to career literature.	2.1 Secure films and other materials from library.
	2.2 Students view films on business and office careers.	
3. To develop a local job opportunities listing for business and office careers.	3.1 Students study local newspaper listings.	3.1 Teacher check with Chamber of Commerce.
	3.2 Students confer with employment service personnel.	3.2 Arrange for conference with employment service.

CLUSTER VI: Business and Office

DEVELOPMENTAL AREA C: Education and Training

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To help students become knowledgeable about the education, training, and skills necessary for careers in business and office.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1. To describe three possibilities for employment in business and office jobs.	1.1 Invite representatives from high school business and office programs to explain courses.	1.1 Consult local resource file for speakers.
	1.2 Invite representatives from local business to explain opportunities available to high school business and office graduates.	
	1.3 Students interview high school counselors or use library research to gain information.	
2. To list three ways in which interested students could begin preparing for a business and office career.	2.1 Students report on hobbies or other activities that could lead to employment in this cluster.	
	2.2 Invite representative from Junior Achievement to explain how skills learned could be used in business.	
	2.3 Students interview high school counselors concerning student clubs and activities that relate to business careers.	
	2.4 Students list skills that they study in language arts that could be helpful in business and office careers.	

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
3. To list three jobs which require the following training: —on-the-job training —business school —two year technical school —four year college program	3.1 Students report on courses offered in local business college, high school, and technical school that lead to careers in business and office. 3.2 Students create a chart compiling the information that they have researched.	

CLUSTER VI: Business and Office

DEVELOPMENTAL AREA D: Economics

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To help students become knowledgeable about the economic facts of a career in business and office occupations.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1. To list the current salaries or wages of at least five business and office careers that interest him.	1.1 Students research available information for current wages and salaries.	1.1 Obtain salary information from Ohio Bureau of Employee Services.
	1.2 Invite representatives from employment agencies or personnel departments to discuss current wages and salaries.	1.2 Contact local resource file for speakers.
	1.3 Students review newspaper want ads and obtain current salary and wage information.	
2. To describe the amount and cost of training in obtaining three jobs of interest.	2.1 Invite representative from local business college to explain course offerings, costs, and employment possibilities.	2.1 Consult local resource file for speakers.
	2.2 Students research information concerning training programs available in high school curriculum.	

CLUSTER VI: Business and Office

DEVELOPMENTAL AREA E: Employability and Work Adjustment

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To acquaint students with the expectations of employers of business and office personnel.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To list ten characteristics which employers expect of business and office employees.	1.1 Students interview business manager to learn about his expectations.	1.1 Consult local resource file for speakers and field trips.
	1.2 If any student has a parent who works in an office, ask the student to report of what is expected of parent on the job.	
	1.3 Students tour a local business and note the interpersonal relationships between employees and other job expectations.	
2. To list at least five attitudes that would aid his adjustment on the job.	2.1 Students discuss what they feel are basic attitudes needed for job success.	
	2.2 Class prepares a chart of the attitudes listed.	
	2.3 Students view films depicting office workers on the job to see if the attitudes listed above are shown.	2.3 Check with audiovisual department for films.
	2.4 Role-play two office situations: one in which the attitudes are present and one in which they are absent.	
	2.5 Students discuss the importance of good attitudes on the job.	

CLUSTER VI: Business and Office

DEVELOPMENTAL AREA F: Decision-Making

OVERALL DEVELOPMENT OBJECTIVE NO. 1: To help students develop skills in evaluating their decision-making abilities that have application to business and office careers.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To categorize the decision-making abilities needed for at least three business and office careers.	1.1 Research pertinent information in library or resource center.	
	1.2 Students interview people employed in business and office careers and write a report of information gained.	1.2 Consult local resource file for speaker.
	1.3 Students make a chart categorizing the information they have gained about the careers they have chosen.	
2. To explain the desirability of the jobs selected above in terms of one's own abilities and interests.	2.1 Students review the information collected in previous activities and list reasons why the job would or would not match their interests and abilities.	
	2.2 If two students have opposite reactions to the same job, ask them to explain their reasoning to the class.	
3. To list at least three jobs that would match his own interests and abilities and three that would not from this cluster.	3.1 Each student selects careers and writes a short paper telling why he would or would not select these careers.	
	3.2 Invite high school counselor to explain the importance of matching abilities and interests with job choices.	

CLUSTER VI: Business and Office

DEVELOPMENTAL AREA G: Self

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To discover one's personal capabilities as they relate to business and office careers.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To explain how his own interests and abilities could lead to a career in business and office cluster.	1.1 Administer the OVIS or other interest survey to students.	1.1 Check with guidance counselor for availability of interest and aptitude tests and time needed for interpretation and administration.
	1.2 Ask guidance counselor to interpret results to the class.	
	1.3 Administer General Aptitude Test Battery (GATB) to students and discuss results with class.	
	1.4 Compile chart using information gathered in previous exercises for student reference.	
	1.5 Student selects three careers that would relate to his interests and abilities.	
	1.6 Student writes a short paper giving the results of this study.	
2. To list at least three business and office careers that would not match his own interests and abilities.	2.1 Using the information gathered in the above exercises, each student selects three careers that would not match his interests and abilities.	
	2.2 Each student gives a short talk telling why these careers are not "for him."	

JOB CLUSTER VII

MARKETING AND DISTRIBUTION

JOB CLUSTER VII

MARKETING AND DISTRIBUTION

A. Rationale

The marketing and distribution job cluster offers a great variety of job opportunities to young people—to those who have college degrees as well as those who have not finished high school. In 1970 4.7 million workers were employed in sales occupations and about one-quarter of these were part-time employees. Nearly 17 million people were employed in wholesale and retail industries including two million who were self-employed. Education and training requirements are as varied as the jobs themselves with many workers receiving on-the-job training or attending special training sessions after they are employed.

B. Marketing and Distribution in the Curriculum

The marketing and distribution cluster relates easily to several subjects. Basic mathematics skills are essential as workers must frequently quote prices and make change. Because salespersons must deal with strangers, in person and on the telephone, communicative skills play an important role in their background. Social studies classes can cover the interpersonal relations necessary for job success and the science curriculum provides examples of some of the specific scientific information needed by specialists. Close examination of the existing curriculum and the occupational flow charts (see appendix) will show many additional relationships between this cluster and the subjects being taught.

C. Typical careers in Marketing and Distribution include:

Merchandise Manager
Real Estate Salesman
Sales Engineer
General Merchandise Salesman
Automobile Parts Salesman
Direct Mail Specialist
House-to-House Salesman
Export Manager
Advertising Representative
Display Man
Public Relations Worker
Transportation Foreman
Shipper
Warehouse Manager
Inventory Clerk
Receiving Clerk
Junk Buyer
Price Purchase Analyst
Materials Handler
Securities Advisor
Loan Counselor
Life Insurance Salesman
Market Research Analyst
Product Designer
Sales Executive
Industrial Relations Manager
Sales Director
Personnel Manager
Toy Buyer
Floor Manager
Grocery Salesman
Jewelry Salesperson
Director of Purchasing
Chain Store Buyer
Procurement Clerk

CLUSTER VII: Marketing and Distribution

DEVELOPMENTAL AREA A: Individual and Environment

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To help student realize his dependence on careers in marketing and distribution.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To list at least five ways in which he is dependent on marketing and distribution careers in his daily life.	1.1 List 25 marketing and distribution careers on the board as students name them.	
	1.2 Have students role-play a grocery store owner and the people associated with that business.	
	1.3 Create a list of ten or more items used daily and ask each student to pick one of them and list five related careers.	
2. To list at least ten major products that are marketed in the local community, and the jobs that are associated with those products.	2.1 Distribute telephone books to students and have them list the major industries located in the community.	2.1 Provide telephone directories.
	2.2 Have groups of students research and make a bar graph showing annual production by these companies.	2.2 Contact companies or Chamber of Commerce for information.
	2.3 After each group reports to the class, give each student a map of the county and have him locate the companies on the map.	

CLUSTER VII: Marketing and Distribution

DEVELOPMENTAL AREA A: Individual and Environment

OVERALL DEVELOPMENTAL OBJECTIVE NO. 2: To realize that a successful career in marketing and distribution is based on interests and abilities.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To list at least five skills related to a career in marketing and distribution.	1.1 Invite an employee to discuss his skills with the class.	1.1 Consult local resource file for speakers and field trips.
	1.2 View a film showing careers and ask students to list the skills that they observe.	1.2 Check with audiovisual department for films.
	1.3 Tour a local retail store and list the skills used by salespersons.	
	1.4 Have each student list the most important skills he has found in the above activities; combine the lists.	
2. To list at least five personal attributes that relate to a successful sales career.	2.1 Create a list of the personal characteristics that the students feel are important.	2.1 Consult local resource file for speakers.
	2.2 Discuss the importance of the following attributes with the class: self-confidence energy poise self-discipline imagination ability to communicate	
	2.3 Ask the personnel manager of a sales firm to talk with the class about the characteristics he looks for in employees.	

CLUSTER VII: Marketing and Distribution

DEVELOPMENTAL AREA B: World of Work

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To become knowledgeable about the career opportunities available in the local community in marketing and distribution.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To identify the seven general areas of employment in this cluster and list three or more examples of occupations in each.	1.1 Study copies of the U.S.O.E. flow charts with the class and list the jobs available in each subgroup.	
	1.2 Divide the class into groups according to interest.	
	1.3 Have each group make a detailed study of the selected area and research careers available.	
	1.4 Have each group make a presentation to the class.	
	1.5 Have each group prepare a large wall chart of the careers they have researched.	
2. To list at least three jobs in the community that fit into each of the seven U.S.O.E. subgroups. (See flow chart in Appendix).	2.1 Pass out copies of the U.S.O.E. flow charts and discuss them with the class.	2.1 Provide U.S.O.E. flow charts.
	2.2 View films on marketing and distribution careers and list careers observed.	2.2 Consult local resource file for speakers and field trips.
	2.3 Have small groups of students tour local establishments to learn about marketing careers.	2.3 Provide *DOT* and related reference materials.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
	2.4 Using *DOT* and other references, have students research additional careers.	
	2.5 Invite several persons employed in marketing and distribution firms to discuss job opportunities with students.	

CLUSTER VII: Marketing and Distribution

DEVELOPMENTAL AREA C: Education and Training

OVERALL DEVELOPMENT OBJECTIVE NO. 1: To become knowledgeable about the different educational requirements necessary for various marketing and distribution careers.

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To match a list of ten marketing and distribution careers with the training required.	1.1 Create a list of careers that interest the students and select the twenty more popular.	1.1 Provide *DOT, Occupational Outlook Handbook* and related resources.
	1.2 Have small groups of students research the educational requirements for each career.	
	1.3 Each group should prepare a chart illustrating its research and present its findings to the class.	
	1.4 Create a bulletin board displaying the charts.	
2. To list at least ten marketing and distribution careers that can be obtained with a high school education.	2.1 Invite the local Distributive Education instructor to explain the high school program and opportunities for graduates.	2.1 Contact high school for DE instructor.
	2.2 Have small groups of students research other careers that require only a high school diploma.	2.2 Provide necessary research materials.
	2.3 View selected films and list careers that require only a high school degree.	2.3 Check with audiovisual department for films.
3. To give three examples of how an employee can advance himself through further training.	3.1 Discuss on-the-job training, university extension courses, industry-sponsored training programs and home study as means of advancement.	

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
	3.2 Invite a sales executive to discuss his past jobs and the training he needed for advancement.	
	3.3 Students make ladders of related careers and discuss the training needed for advancement.	
4. To explain why two salesmen may have similar jobs but different salaries.	4.1 Have students role-play a job interview in which one applicant has minimum skills and training and another has advanced training.	
	4.2 Discuss how different degrees of training may affect one's salary.	

CLUSTER VII: Marketing and Distribution

DEVELOPMENTAL AREA D: Economics

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To become familiar with the economic costs and rewards possible in marketing and distribution careers.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To select at least five marketing and distribution careers and list the current wages or salaries for these jobs.	1.1 Students will research current information for statistics.	1.1 Contact the State Employment Agency for salary information.
	1.2 Each student interviews at least one person in a career he has chosen to determine salary ranges.	
	1.3 Contact several employment agencies to obtain current salary information.	
	1.4 Have students check the classified ad section of the paper for job listings.	
	1.5 Have each student prepare a chart of his findings.	
2. To list the expense necessary to obtain the needed skills for each of the five jobs selected.	2.1 Students interview employees to determine type and cost of training.	2.1 Provide career literature.
	2.2 Provide time for library research on educational requirements and training costs.	
	2.3 Have each student report on one of the careers he has chosen.	

CLUSTER VII: Marketing and Distribution

DEVELOPMENTAL AREA D: Economics

OVERALL DEVELOPMENTAL OBJECTIVE NO. 2: To become familiar with the differences between salaried salespersons and those who work for a commission.

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To explain, in writing or orally, the difference between salary and commission and give at least two advantages of each.	1.1 Invite a salesperson who is salaried and one who works on a commission basis to talk to the class.	1.1 Consult local resource file for speakers.
	1.2 Have students compute several commission problems.	1.2 Make up commission problems or use mathematics book, if appropriate.
	1.3 Have students interview the manager of a small store that pays a commission to determine how this has affected his sales.	
	1.4 Have groups of students role-play several sales situations, such as: house-to-house salesman insurance salesman pharmaceutical salesman retail sales clerk	
	1.5 Have a rap session with students concerning the advantages of salaries and commissions.	

CLUSTER VII: Marketing and Distribution

DEVELOPMENTAL AREA E: Employability and Work Adjustment

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To acquire knowledge of the procedures which may be needed to obtain employment in marketing and distribution careers.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1. To compare the different methods of applying for a job.	1.1 Discuss the different methods of applying for a job—by letter, by personal interview, by phoning to answer a want ad.	
	1.2 Have students list the skills needed in each method of application.	
2. To write a sample resume of his qualifications.	2.1 Ask a representative from a private employment agency to explain the importance of a resume and what it should contain.	2.1 Consult local resource file for speakers. 2.2 Provide resume forms.
	2.2 Construct a sample resume on the board and discuss its contents with the class.	
	2.3 Have each student make a resume that includes the items discussed above.	
3. To write a letter of application for a marketing job advertised in the newspaper.	3.1 Discuss the form for writing a letter of application.	3.1 Provide recent newspapers.
	3.2 Have each student select an advertisement from the local paper and write a letter of application for that job.	

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
4. To demonstrate the proper and improper ways to conduct himself in a job interview.	4.1 Invite a respresentative from an employment agency to discuss the importance of a job interview and tips for a good interview.	4.1 Consult local resource file for speakers.
	4.2 Have the employment counselor interview several students to demonstrate good and bad interview techniques.	
	4.3 Show films depicting job interviews and discuss the good and weak points of each.	
	4.4 Divide the students into teams and have them role-play correct and incorrect job interview procedures.	
5. To list at least five qualities which would make him employable for five different careers in marketing and distribution.	5.1 Students summarize a list of qualities from discussions with employees.	5.1 Arrange for discussions with employees.
6. To list at least five indicators of a person's adjustment to his job.	6.1 Students summarize findings after conferring with employees.	

CLUSTER VII: Marketing and Distribution

DEVELOPMENTAL AREA F: Decision-Making

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To develop skills in evaluating information for various occupations in marketing and distribution.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To obtain pertinent information about five marketing and distribution careers of interest.	1.1 Have students list the types of information they think they might need to make an occupational choice.	1.1 Arrange for guidance counselor to talk with class.
	1.2 Ask the guidance counselor to explain the use of the *DOT, Occupational Outlook Handbook* and other related references.	1.2 Provide handouts for job survey.
	1.3 Provide the students with a list of information to obtain for decision-making. The list might include: —entry opportunities —scholarships, —summer jobs —apprenticeships —on-the-job training —industry sponsored training schools Entry requirements —education and training —previous experience —licensing —equipment —personal traits Advancement Opportunities —channels —steps Earnings —entry salaries or wages —median after five years —top possibilities	

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
	—Fringe Benefits —sick leave —vacation —insurance —retirement Working Conditions —hours —indoor vs. outdoor —manual vs. mental —one location vs. travel —environment —professional organizations or unions —daily routine vs. change	
	1.5 Provide time for students to research needed information about the five careers they have selected.	
	1.5 Make a permanent room file of the information obtained.	
2. To list at least three activities that he can now do that would prepare him for a career in marketing and distribution.	2.1 Invite representative from Junior Achievement to explain its operation and sales opportunities to students.	2.1 Consult local resource file for speakers.
	2.2 Have students who participate in volunteer activities explain how these activities might help them prepare for a career in sales.	
3. To analyze his decision-making ability and identify three careers that would match this ability.	3.1 Have student prepare summations of their decision-making ability.	3.1 Teacher identify pertinent points.

CLUSTER VII: Marketing and Distribution

DEVELOPMENTAL AREA G: Self

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To help each student discover careers in marketing and distribution that match his interests, aptitude and abilities.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To identify his interests as they relate to a career in marketing and distribution.	1.1 Administer and interpret the OVIS or similar interest survey.	1.1 Check with guidance department for time needed to administer score and interpret the OVIS.
	1.2 Using the profile from the OVIS, each student compares his interests with the job analysis he made on the five careers in the previous exercises (Decision-Making).	
	1.3 Each student should note where his interests match the interests needed and where they don't.	
2. To identify his abilities as they relate to a career in marketing and distribution.	2.1 Administer and interpret the GATB or similar aptitude test.	2.1 Check with guidance department for time needed to administer and interpret the GATB.
	2.2 Using the test results, each student should compare the results with the job analysis he completed in the previous exercises (Decision-making).	
3. To identify educational opportunities that relate to five jobs in marketing and distribution.	3.1 Students visit training institutions for marketing and distribution careers, including the local high school, community college, business college, vocational schools and colleges.	3.1 Consult local resource file for field trips.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
4. To select at least three marketing and distribution careers that match his interests and abilities.	4.1 Each student compares the analysis of jobs with the results of the OVIS and the GATB.	
	4.2 Each student should select one career that would satisfy him, and write a short report explaining why.	

JOB CLUSTER VIII

PUBLIC SERVICE

JOB CLUSTER VIII

PUBLIC SERVICE

A. Rationale

One feature common to most of the public service occupations is that they depend upon public support in that they receive their revenue from taxation, bonds, or fees. A second feature is that they provide services to the public. The services performed are extremely important to each of us. A partial list of these services would include: regulatory services, police and fire, postal services, public health, education, defense, public utilities, public transportation, and many others.

B. Public Service in the curriculum.

Any one of the subject areas could include public service career-related activities. Social studies instructors can easily incorporate public services into their curriculum both as current events and as historical studies. Science classes may wish to discuss the scientific aspects of police and fire protection as well as public health. Likewise, other aspects of the public service cluster will correlate with various curriculum areas.

C. Typical careers in the Public Service cluster include:

Truck Driver	Dispatcher	Service Director
School Bus Driver	Custodian	Business Manager
Teacher	Principal	Superintendent
Postman	Inspector	Postmaster
Serviceman	Officer	President
Precinct Committeeman	Councilman	Mayor
Patrolman	Detective	Chief of Police
Fireman	Inspector	Fire chief
Deckhand	Harbor Pilot	Harbor master

CLUSTER VIII: Public Service

DEVELOPMENTAL AREA A: Individual and Environment

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To develop an understanding of the interdependency of the local environment and the public service occupations.

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1 To identify ten public service occupations in his community and list at least one reason why each is necessary in the community.	1.1 Students tour local public service facilities after discussing appropriate text material.	1.1 Consult coordinator for field trip.
	1.2 Students write to the facilities to get a list of occupations.	1.2 Consult local resource file for consultants.
	1.3 Student selects one occupation, looks it up in the *DOT* and explains it to his group.	1.3 Provide *DOT*.
	1.4 Each student gives a short talk about one occupation which interests him.	
2. To explain job opportunities and description of one public service area such as the safety services.	2.1 Discuss safety services using pictures found in newspapers and magazines.	2.1 Provide *DOT* for student reference.
	2.2 Students interview a fireman or patrolman to complete a class prepared questionnaire.	2.2 Consult local resource file for consultants and field trips.
	2.3 Students take field trips to local police and fire departments.	

CLUSTER VIII: Public Service

DEVELOPMENTAL AREA B: World of Work

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To become familiar with the variety of occupations included in the public service cluster.

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To list ten occupations in each of four areas: postal services public health education public utilities	1.1 Students view films on public service careers.	1.1 Provide selected suitable commercially prepared information and such references as *DOT*.
	1.2 Students interview public service workers regarding variety of careers in specific areas.	1.2 Consult local resources file for speaker and field trips.
	1.3 Students tour public services and list all jobs seen.	
2. To make a chart differentiating between local, state, and national public services.	2.1 Students research parallel services in school and public library.	2.1 Notify librarian to have materials available.
	2.2 Students explain orally one service that crosses governmental levels.	2.2 Contact coordinator to set up field trips.
	2.3 Students list eight services provided by each level of government.	2.3 Develop questionnaire that will produce the desired information
	2.4 Students tour parallel local and state services, such as police station and state patrol headquarters.	
	2.5 Students interview an employee at a postal sub-station to complete a prepared questionnaire.	

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
3. To explain orally that some non-governmental utilities are considered public service, and to list five occupations in each area.	3.1 Have class list "public utilities" that serve the local area.	3.1 Consult local resource file for speakers.
	3.2 Have a consultant from a publically owned utility and one from a privately owned utility explain the organizational structures of their companies to the class.	
	3.3 Have students compare the ownership of the telephone company with that of the fire department.	
4. To write a report comparing an occupation found in private enterprise and public service that have the same job description.	4.1 The student will list two occupations that have the same title although one is found in public institutions and the other in private business.	4.1 Visit library for research materials. 4.2 Provide *DOT*.

CLUSTER VIII: Public Service

DEVELOPMENTAL AREA C: Education and Training

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To understand the knowledge, education, and training necessary to develop job entry skills.

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To name job entry level skills necessary to enter at least two public service careers.	1.1 Have a class discussion on how to get a job.	1.1 Consult local resource file for consultant from personnel office and civil services.
	1.2 Develop a list of ten public service occupations.	1.2 Provide *DOT* and sample job application forms.
	1.3 Interview a personnel worker in public services to ascertain entry level skills and job application procedures.	
	1.4 Examine several job application forms with the class for content.	
	1.5 Students determine and list the skills needed.	
2. To list those local school facilities which provide education and training for public service careers.	2.1 Make a list of all subjects taught in the junior high school curriculum.	
	2.2 Compare this list with a list of entry level skills. List those courses that would give most experiences leading to the job entry skills for occupations in question.	
3. To identify educational requirements for ten public service jobs at various levels: Unskilled Skilled Technician	3.1 Have former graduates speak to classes.	3.1 Teacher secures resource persons.
	3.2 Students make reports on careers of interest.	

CLUSTER VIII: Public Service

DEVELOPMENTAL AREA D: Economics

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To understand that the economic level of similar public service careers may vary with time and circumstances.

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To complete a graph showing the earnings of comparable personnel in three fields of public services.	1.1 Students research available materials for salary information.	1.1 Provide Ohio Bureau of Employment Services materials.
	1.2 Students interview workers in chosen fields to ascertain reasons for salary variances.	1.2 Ask librarian to have materials available.
	1.3 Students report on economic differences for similar careers in large urban areas and small rural areas.	1.3 Consult local resources center for related materials.
2. To compare three public service jobs that no longer exist with three that have appeared in the last five years.	2.1 Students interview "Golden-Agers" about jobs that have ceased to exist.	2.1 Consult local resource file for speakers.
	2.2 Create a list of careers that disappeared since the civil war.	2.2 Provide appropriate text or resource materials.
	2.3 Students interview public service workers to learn about "new" careers.	
3. To predict the future of at least two public service jobs.	3.1 Review list of careers that have disappeared and discuss reasons why with the class.	3.1 Consult local resource file for speakers.
	3.2 Create a list of public service careers which have emerged in the last 25 years.	

CLUSTER VIII: Public Service

DEVELOPMENTAL AREA E: Employability and Work Adjustment Skills.

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To develop patterns of interpersonal behavior that will contribute to job success.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To develop a list of five behavior patterns peculiar to a specific occupation in the public service cluster.	1.1 Students participate in appropriate lessons.	1.1 Provide *DOT* and other suitable references.
	1.2 Students compare personal traits required of persons working in the professions of chaplain, patrolman and lineman.	
2. To prepare a list of qualifications that are commensurate with a public service job of his choice.	2.1 Students do library research to determine qualifications important to the performance of the occupation selected.	
	2.2 Using information obtained in the above exercise, students should create a list of traits peculiar to the selected occupations.	
3. To explain how patterns of interpersonal behavior can be acquired or can vary.	3.1 Students will write a list of observable behavior changes as individuals change characters in a role-playing exercise, e.g. policeman issuing a ticket to a stranger vs. catching the mayor speeding.	

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
	3.2 Each student writes a theme comparing his behavior in a church with his behavior in school.	
	3.3 Have a public transportation dispatcher explain absenteeism and the problems it causes.	
	3.4 Students participate in a group discussion comparing absence from school and absence from work.	

CLUSTER VIII: Public Service

DEVELOPMENTAL AREA F: Decision-Making

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To realize that decision-making must be a conscious process when considering a career choice in the public service field.

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To list five public service careers that require much decision-making ability and five that require little.	1.1 Have a panel compare the amount of decision making ability required in different careers.	1.1 Conduct class unit on decision-making.
	1.2 Have a panel discuss consequences of decisions.	1.2 Secure resource person from industry.
	1.3 Organize class into panels allowing each to choose a subject that requires a decision.	
2. To explain why career decisions cannot always be strictly on personal wishes.	2.1 Discuss the reasons why a person might accept a job in public service that he does not really want.	2.1 Plan a trip to the local town council or board of education meeting.
	2.2 Have a student play the role of a committeeman in a council that is trying to decide whether to present to the voters a levy for a new swimming pool or a levy for a needed sewage disposal plant.	
	2.3 Interview several public services workers concerning personal conflicts on their jobs.	

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
3. To make a career decision and explain the basis on which it was made.	3.1 Each student picks an occupation from the public service cluster and documents the reasons why he would or would not choose to enter the selected occupation.	3.1 Provide time for library research.
		3.2 Provide commercially prepared library materials.
		3.4 Provide counseling services.

CLUSTER VIII: Public Service

DEVELOPMENTAL AREA G: Self

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To compare one's own abilities and values with those necessary to be employed in public services.

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To rank his values from most desirable to least desirable, and evaluate them in terms of five public service careers.	1.1 Discuss society's values. 1.2 Students interview clergyman and policeman about local values. 1.3 Make a list of social values and rank them from most desirable to least desirable.	1.1 Use text materials if appropriate. 1.2 Check local resource file for speakers.
2. To list five moral values that an individual may develop that may or may not agree with those of a favorite career.	2.1 Have a class discussion on personal values. 2.2 Make a composite list of the group's personal values. Find one that disagrees with society's and look for an explanation. 2.3 Students make personal lists of moral values and compare to society's.	2.1 Consult local resources file for speakers.
3. To assess his own aspirations, abilities, and qualities, and to identify at least three possible public service careers which could be acceptable.	3.1 Students use OVIS results to understand themselves better. 3.2 Have class project of evaluation of each other.	3.1 Consult local resource file for field trips and appropriate plan personnel. 3.2 Guidance counselor interprets OVIS results.

JOB CLUSTER IX

TRANSPORTATION

JOB CLUSTER IX

TRANSPORTATION

A. Rationale

The transportation cluster deals with the moving of people and materials by means of automotive and railroad vehicles, aircraft, fresh water and seagoing vessels, pipes and pumps. It includes loading, determining the number of passengers or the amount and kinds of materials being conveyed, directing the course of carriers, routing materials, servicing carriers and related services.

B. Transportation in the Curriculum

The transportation system has often held the key to economic development. It's successes and failures have had an effect on all segments of the economy. Since the far-reaching effects of the transportation system have been traditionally the concern of the social scientist, the social studies teacher will have many occasions to introduce students to career opportunities in this field. An understanding of the diverse occupations in transportation will give the student many avenues to use his talents and interests in its varied, but often related job opportunities.

C. Typical Careers in Transportation include:

Superintendent, Airport
Flight Supervisor
Superintendent of Way
Harbor Manager
Schedule Analyst
Dispatcher
Programmer
Air Traffic Control
Coordinator
Meteorologist
Conductor
Flying Instructor

Test Pilot
Commercial Pilot
Business Service Pilot
Navigator
Stewardess
Railroad Fireman
Locomotive Engineer
Yard Masters
Switchman
Truck Drivers, Light
Truck Drivers, Heavy

Trailer-Truck Drivers
Furniture Movers
Taxicab Drivers
Ambulance Drivers
Bus Drivers
Communication Specialist
Radio Technician (radio)
Instrument Technician (repairman)
Communication—Teletypist
Salesman
Traffic Managers

CLUSTER IX: Transportation

DEVELOPMENT AREA A: Individual and the Environment

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To understand the role of forces in society that have an effect on occupations in transportation.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To list individual requirements for ten transportation careers.	1.1 Discuss state license requirements for drivers, chauffeurs and truckers and the rationale for such regulations.	1.1 Provide lists of job requirements from highway patrol.
	1.2 Have a student report differences in requirements for auto drivers and long-haul truck drivers.	1.2 *Occupational Outlook Handbook*, 1972.
	1.3 Discuss physical requirements for professional drivers and civil aviation workers.	1.3 Arrange for speaker from Ohio patrol or FAA.
	1.4 Have students report on Federal Aviation Authority approved schools.	
	1.5 Ask a speaker to discuss why the federal government employs many people in civil aviation.	
2. To list ways that organized labor has an important effect upon five transportation occupations.	2.1 Have groups report on labor and organized groups in different transportation occupations.	2.1 Refer to *Occupational Outlook Handbook* for working conditions in civil aviation and merchant marine.
	2.2 As a result of the research and reports, students can discuss with speaker such policies and practices as the following: weapons used by labor, seniority, and role in transportation occupations.	2.2 Consult resource file for speaker from transportation labor union.

CLUSTER IX: Transportation

DEVELOPMENTAL AREA B: World of Work

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To become knowledgeable about the basic performance skills needed in transportation occupations.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1. To identify the main role of six occupations in transportation, and compare activities with his abilities and interests.	1.1 Have groups study and report on the main responsibilities of various occupations.	1.1 Select commercial materials, books and audiovisuals or government publications.
		1.2 Have science teacher, science student, or resource person, such as a dispatcher, demonstrate how weather data is used in transportation.
		1.3 Consult local resource file for speakers.
2. To list twenty-five local transportation careers and select three for possible in-depth evaluation.	2.1 Make a map of the area and identify employers.	2.1 Secure large map from county engineer.

CLUSTER IX: Transportation

DEVELOPMENTAL AREA C: Education and Training

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To understand the education, training, and skill needed for transportation occupations.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To list and explain three major tasks he enjoys that are related to those found in transportation occupations.	1.1 Discuss ways school subjects relate to occupations in transportation.	1.1 Have class unit on personal likes and dislikes.
	1.2 Have students list tasks that are performed in school that are similar to those performed in transportation careers.	
2. To list three ways in which he can prepare for a career in transportation.	2.1 Assign groups of students to report on career preparation in the following activities: hobbies (eg. building models, reading automotive magazines); leadership in school organizations; fixing household appliances, etc.	2.1 Provide *DOT, Vol. II,* and *Occupational Outlook Handbook*.
3. To explain the importance of manual dexerity, spatial and form relationship, clerical performance and eye-foot coordination needed by at least five transportation careers.	3.1 Have a counselor give an explanation of aptitudes needed in some transportation occupations and give a short demonstration of the GATB or similar test of manual dexterity and spatial relationships.	
	3.2 Have students view a film to determine eye-foot coordination or visit a driver education laboratory.	
	3.3 Students read a story about a long distance truck driver and other transportation workers and ask students to make a list of the skills required.	

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
4. To list two of the occupations in transportation that would require the following types of training: on-the-job training vocational school business course two-year technical college four-year college	4.1 Have groups study and report on the level of education and training needed for selected occupations in transportation.	
	4.2 Class creates a job chart that shows the training required by selected occupations.	
	4.3 Students investigate and report opportunities in local areas and elsewhere in the following: —vocational high schools —technical schools —college	

CLUSTER IX: Transportation

DEVELOPMENTAL AREA D: Economics

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To acquire knowledge about the relationship between various occupations and related personal economics and life style.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To list five transportation occupations and the life style that would be related to each.	1.1 Students view films on various transportation careers and discuss different life styles presented	1.1 Check audiovisual department for transportation films.
	1.2 Prepare a chart comparing selected transportation occupations that have different life styles due to hours, fringe benefits, and peculiar advantages and disadvantages of occupations.	
2. To list salary levels of three transportation occupations in each of the following levels: labor mid-management management	2.1 Have students prepare charts ranking occupations according to social importance and average income of workers.	2.1 Provide *Occupational Outlook Handbook* or local employment bureau information.

CLUSTER IX: Transportation

DEVELOPMENTAL AREA E: Employability and Work Adjustment Skills

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To develop the basic work attitudes and skills necessary for job entry and advancement in transportation careers.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1. To list ten careers in transportation that have direct contact with the public, and thus require ample adjustment skills.	1.1 Arrange for a field trip on public transportation to bus terminal or airport and make observations of employees.	1.1 Check with coordinator for list of possible field trips.
	1.2 Students view films on transportation and list those careers that have direct public contact.	
2. To list two attitudes and two communication skills important in public transportation careers.	2.1 Students write a short paper on skills and attitudes used in the public relations aspects of transportation careers.	
	2.2 Students role-play difficult situations that can occur between transportation workers and their clients or passengers.	
	2.3 Discuss jobs that provide higher income and less status and vice versa.	
3. To list at least two specific occupations in the transportation cluster that would relate to a life style consistent with his desires.	3.1 Have students write a paper describing two economic life styles that could be realized from transportation careers.	
4. To identify ten careers in transportation where his qualifications and personal attitudes would suggest a desirable job adjustment.	4.1 Give the GATB to all students.	4.1 Contact Guidance Service.
	4.2 Each student writes a self-analysis.	

CLUSTER IX: Transportation

DEVELOPMENTAL AREA F: Decision-Making

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To learn about decision-making techniques and their application in choosing an appropriate occupation in transportation.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To list five reasons why other people choose particular occupations and rank them in order of importance.	1.1 Discuss possible reasons for selecting a transportation career including nature of work, education and training, earnings, and advancement opportunities.	1.1 Provide a list of occupations in transportation.
	1.2 Have each student select occupations that interest them and write a short paper beginning "I would like to become a ______ because ______."	
	1.3 Have students compile their lists to determine the most frequent reasons for selecting transportation careers.	
	1.4 Students can interview parents, teachers, or friends to discover how adults make their career choices.	
2. To list five transportation careers that would relate to his interest in data, people and things.	2.1 From a long list of school and related tasks, ask each student to select activities he likes to do.	2.1 Provide a list of job related tasks and transportation careers.
	2.2 Have students categorize lists of transportation careers according to the data, people, things classification.	

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
	2.3 Students rate tasks (2.1) as to importance of data, people, things (use low, medium, high).	
	2.4 Using his data, people, things score each student selects five careers that might interest him.	
	2.5 Each student writes a paper telling why he prefers working with data, people or things.	
3. To rate a list of ten transportation careers in terms of amount of decision-making ability required.	3.1 Students research career literature.	3.1 Have class lesson on decision-making abilities.
	3.2 Interviews with employees to determine their abilities.	

CLUSTER IX: Transportation

DEVELOPMENTAL AREA G: Self

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To acquire a knowledge of the relationship of personal interests, aptitudes, and achievements in evaluating careers.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To list five of his interests, hobbies or activities that relate to a transportation career.	1.1 Students take an interest inventory and have results interpreted by counselor.	1.1 Check with guidance department for interest inventories.
	1.2 Have small groups of students discuss interests that could relate to transportation careers.	
2. To list five transportation occupations that would require training commensurate with his educational goals.	2.1 Have students compare the number of years of formal education they hope to achieve with a list of occupations that require that level of education.	
	2.2 Using the chart created in the previous activity, each student writes a short paper on how a person with his interests and goals might decide on a career in transportation.	
3. To list three qualities he has that would be helpful in achieving success in a transportation career.	3.1 Students study biographies of people who have had a successful careers in spite of handicaps.	
	3.2 Students interview transportation workers regarding personal qualities that lead to success.	

JOB CLUSTER X

PERSONAL SERVICES

JOB CLUSTER X

PERSONAL SERVICES

A. Rationale

In the past, opportunities in service occupations have grown at about the same rate as the labor force as a whole. However, the United States Department of Labor predicts that employment in these occupations will grow faster as income and leisure time increases.

Students must be made aware of the great variety of occupational choices available to them in personal services. Educational requirements for entry into these occupations may vary from jobs requiring no special educational training beyond high school to those involving college degrees. Personality traits and special abilities may be as important as formal education for success in many of these occupations. Students should know that many people in service occupations increase their economic opportunities by going into business for themselves. In these cases a good basic education plus knowledge of business techniques is important.

B. Personal Services in the Curriculum

Personal service occupations may be studied in a number of junior high school subjects. Cosmetology and even barbering may be studied in home economics as this subject becomes more vocationally oriented. Science teachers may deal with opportunities in mortuary science and animal care; physical education instructors may relate to physical culture careers. Language arts and social studies teachers have opportunities to reinforce efforts by other subject teachers by an emphasis on the importance of communication and personal relation skills in these people-oriented occupations.

C. Typical careers in Personal Services include:

- Veterinarian
- Instructor, Director
- Manager, Barber Shop
- Funeral Director
- Mortician
- Service Industry, Manager
- Barber
- Manicurist
- Supervisor, Make-up
- Cosmetologist
- Beauty culturist
- Facial operator
- Shampooer
- Wig Dresser
- Masseur
- Reducing machine Operator
- Scalp treatment operator
- Cooling Room Attendant
- Dog Groomer
- Animal Caretaker
- Funeral Attendant
- Cremator
- Pet Shop attendant
- Electrologist

CLUSTER X: Personal Service

DEVELOPMENTAL AREA A: Individual and Environment

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To understand the ways in which personal service occupations relate to the needs of society.

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1. To list ten reasons why the personal service occupations are needed by society.	1.1 Groups of students study and report on the importance of the various jobs within the occupational subheadings.	1.1 Provide list of careers in the cluster.
	1.2 Students view films showing roles of personal services workers.	1.2 Provide want ads, phone book and resources of the local Ohio Employment Bureau.
	1.3 Students give short talks on the role each worker plays in society.	1.3 Consult audiovisual department for relevant films.
2. To list and describe five ways in which personal service occupations relate to the community as a whole.	2.1 Discuss the changing roles of service occupations in a changing society, for example, barbering, health spas and funeral homes.	2.1 Consult local resource file for speakers in personal services.
	2.2 Have students interview personal service workers to determine their role in local community.	
3. To prepare a list of ten community services supported by people in the personal service occupations.	3.1 Ask selected students to interview proprietors and workers to determine ways in which they support community services.	3.1 Check local resource file for speakers.
4. To list three individual interests and/or abilities needed for successful employment in service occupations.	4.1 Students visit employees on the job and observe their activities.	4.1 Arrange for student visitations.
	4.2 Speakers visit class to relate what it takes to be successful in service occupations.	4.2 Invite speakers to class.

CLUSTER X: Personal Service

DEVELOPMENTAL AREA B: World of Work

OVERALL DEVELOPMENT OBJECTIVE NO. 1: To increase the student's knowledge of the variety and complexity of occupations in personal services.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To write a short report describing the work performed in three occupations in personal services	1.1 Students interview workers concerning the tasks performed on their jobs.	1.1 Provide a list of personal service occupations.
2. To describe orally the data, people and things involved in the three selected occupations.	2.1 Discuss the meaning of involvement with data, people, things.	2.1 Provide *DOT* for student reference.
	2.2 Show films on personal service careers and discuss involvement with data, people, and things.	
	2.3 Students produce a skit showing the involvement of data, people, and things in several personal service occupations.	
3. To list three examples of special vocational preparation needed in personal service occupations.	3.1 Review special vocational preparation as described in the *DOT*.	3.1 Refer to *DOT, Vol. II,* pp. 652-653.
4. To rank five occupations according to degree of specialition required.	4.1 Field trips to personal service institutions that would show students levels of specialization.	4.1 Check with coordinator for possible field trips to funeral homes, veterinarian hospital, beauty school, etc.
	4.2 Students interview workers in personal services regarding degree of specialization necessary.	4.2 Develop observation forms and questionnaires.

CLUSTER X: Personal Service

DEVELOPMENTAL AREA C: Education and Training

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To discover that educational experiences are directly related to job success in personal service.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To list five occupations in personal service where proficiency in school subjects is a factor in success.	1.1 Discuss ways in which skills learned in mathematics, science, and language arts are needed in personal service occupations.	1.1 Provide *DOT, Vol. II,* and commercially prepared career information.
	1.2 Interview workers whose job depends on scientific knowledge or artistic ability to determine the role of school subjects in their jobs.	
	1.3 Given several job descriptions, students hypothesize about the importance of school success as related to several job descriptions.	1.3 Check local resource file for speakers.
	1.4 Have students research jobs that are directly related to school subjects.	1.4 Provide job descriptions including entry level skills.
2. To list four ways he can prepare himself for personal service occupations through education and training.	2.1 Have a rap session with representatives of several personal service training schools	2.1 Check local resource file for speakers.
	2.2 Discuss what personal characteristics displayed by these representatives would make them good personal service workers.	2.2 Notify librarian so materials will be available.
	2.3 Discuss extra-curricular activities, volunteer workers and organizations that would help students learn to relate to people.	

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
	2.4 Allow students to question resource speakers on ways to communicate effectively and to develop good personal relations.	
	2.5 Select certain skills required by personal service occupations and investigate hobbies and other activities that would help in skill development.	

CLUSTER X: Personal Service

DEVELOPMENTAL AREA D: Economics

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To recognize the relationship between various occupational roles and related personal economics and life styles.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1. To list three ways that differences in life style are related to one's occupation.	1.1 Discuss characteristics of acceptable life styles.	1.1 Provide *Occupational Outlook Handbook* and career monographs.
	1.2 Each student either writes a description of his own acceptable life style or produces a chart with this information.	1.2 Consult local resource file for speakers.
	1.3 Groups of students can research earnings in personal service occupations at different levels.	
2. To rate investment required to enter five selected careers in personal services.	2.1 Use committees to research career resources.	
	2.2 Students make personal contacts to secure information.	
3. To list beginning and average salaries for at least five personal services careers.	3.1 Use department of labor reports.	3.1 Develop rapport with employers to secure information.
	3.2 Contact employers for wage scales.	

CLUSTER X: **Personal Service**

DEVELOPMENTAL AREA E: Employability and Work Adjustment Skills

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To develop an understanding of the basic work habits and attitudes that are necessary for personal service occupations.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1. To list five qualification for selection of jobs in personal services.	1.1 Have students select and report on requirements for specific careers.	1.1 Obtain "How To Apply for a Job" by the Ohio Bureau of Employment Services.
	1.2 Students plan, write and orally present a resume for a given personal services occupation including personal, family, work, and interest data.	
2. To list four basic interests and abilities necessary for a successful job interview in personal service occupations.	2.1 Students interview an employment worker concerning proper interview techniques.	2.1 Consult local resource file for speakers.
	2.2 Have groups of students role-play proper and improper interviews.	
	2.3 Discuss desirable and undesirable traits illustrated in role-playing.	
	2.4 Have students view films on job interviews and discuss good interview techniques.	
3. To identify four social behavior skills necessary for good performance in personal service occupations.	3.1 Students interview workers in personal services to determine important positive behavior skills.	
	3.2 Have students role-play personal service jobs to portray the importance of personality and concern for people.	

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
4. To list three social behaviors that could lead to advancement and three that could lead to dismissal in personal services careers.	4.1 Students view films on getting promoted and discuss behaviors shown.	4.1 Check with audiovisual department for films.
	4.2 Students question resource person concerning favorable and unfavorable attitudes.	4.2 Check local resource file for speakers.

CLUSTER X: Personal Service

DEVELOPMENTAL AREA F: Decision-Making

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To help the student realize that the decision-making process is vital in personal service occupations.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student will be able: 1. To list five attributes that would lead to success in personal service occupations.	1.1 Discuss attributes possessed by successful personal service workers the students know personally.	1.1 Arrange for visit to employees.
	1.2 Make a chart of career attributes essential in personal services.	
2. To choose two sample personal service careers and list his personal attributes that would be required.	2.1 Have each student give a short talk on two occupations that best meet his interests, skills, educational achievements, needs, and relationships with others.	
3. To list ten personal service careers that require a great amount of decision-making ability and ten where little such ability is necessary.	3.1 Students conduct class project to identify career lists.	3.1 Arrange for guidance counselor to talk to class.
	3.2 Survey employees in the industry.	

CLUSTER X: **Personal Service**

DEVELOPMENTAL AREA G: Self

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To learn the importance of establishing tentative occupational guides based upon an understanding of self.

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1. To list five important goals he sets for himself.	1.1 Have students list what they think they want most in their lifetimes.	
2. To list five personal service occupations that would satisfy or dissatisfy the needs of his personal temperament.	2.1 Use inventory check lists to determine each student's likes and dislikes relative to work activities.	2.1 Provide interest check lists. 2.2 Provide *DOT* for student reference.
	2.2 Have students match different temperaments with personal service occupations and list those that would or would not meet their needs.	
3. To identify his strengths and weakness, likes and dislikes and abilities in terms of personal service careers.	3.1 Utilize OVIS results. 3.2 Students write self-analyses.	3.1 Teacher refers students to guidance office for interpretation of OVIS results.

JOB CLUSTER XI

CONSUMER AND HOMEMAKING EDUCATION

JOB CLUSTER XI

CONSUMER AND HOMEMAKING EDUCATION

A. Rationale

The Consumer and Homemaking Education cluster is twofold in nature. Homemaking education primarily involves the discussion of jobs in these general areas; home management and maintenance, food service industry, family relationships and child care, and the clothing and textile industry. Consumer economics has traditionally been taught and discussed in home economics in the light of knowledge that is needed for proper home management. In recent years, public awareness of and developments in consumer education, protection and testing have opened up many new job areas that are connected to occupations in home economics.

B. Consumer and Home Economics in the Curriculum

Viewing this job cluster as twofold, one can relate the cluster to many subject areas other than home economics. The study of the general job areas of home management, food service, child care and clothing can be readily integrated into the existing home economics class program.

Consumer economics lends itself for discussion of occupations not only in home economics, but also in art, mathematics, science, social studies, industrial arts, and language arts or communications.

C. Typical occupations in Consumer and Home Economics include:

Cook	Chef	Master chef
Home Furnishings Salesman	Home Furnishings Manager	Interior decorator
Babysitter	Day-school teacher	Director, Child Services Center
Janitor	Head Custodian	Owner of Janitorial Services Company
Fashion model	Instructor, Modeling School	Manager/Owner, Modeling Agency
Seamtress/Dressmaker	Pattern Maker	Fashion Designer
Salesman (fashions, foods, toys, appliances)	Buyer (fashions, foods, toys, appliances)	Distributor (fashions, foods, toys, appliances)
Writer (consumer or homemaking magazine)	Editor	Editor-in-Chief
Food Processing Worker	Quality control inspector	Federal Government Inspector
Homemaker (Community Social Service)	Counselor-Family & Home Management	Director-Family & Community Services Agency
Staff-artist or Illustrator (consumer, homemaking or fashion magazine)	Free-lance Fashion Artist or Illustrator	Art or Illustration Editor (consumer, homemaking, or fashion magazine)

CLUSTER XI: Consumer and Homemaking Education

DEVELOPMENTAL AREA A: Individual and Environment

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To increase one's knowledge of the interdependency of the individual and environment on occupations in consumer and homemaking education economics.

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1. To choose a general area of consumer and homemaking education and name five careers in that area, explaining how certain individuals in society are dependant upon the services offered by these occupations.	1.1 Students should choose and research jobs in a general area related to this cluster, e.g.; home management and maintance, food service industry, family relationships and child care, clothing and textile industry, consumer education.	1.1 Provide students with handout sheets or list on board the general areas in the cluster and examples of related job.
		1.2 Check media center and library for necessary information.
2. To write a short paper describing his dependency on three or more occupations in this cluster for things he is accustomed to having.	2.1 Discuss occupations in this cluster that affect everyday living.	2.1 Check audiovisual department for filmstrip or movies related to the cluster.
	2.2 Have students read papers in class for further discussion.	
3. To state orally a list of three or more routine jobs he would do as a homeowner that could be full-time occupations for some people.	3.1 Invite professional washers, rug cleaners or painters to address class.	3.1 Consult local resource file for professionals in home care or repair services.
	3.2 Role-play a husband and wife discussing jobs they have to do around the home during "spring cleaning."	

CLUSTER XI: Consumer and Home Economics

DEVELOPMENTAL AREA B: World of Work

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To develop a greater knowledge of the many and varied occupations available in the consumer and home economics cluster within the local community.

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To identify in writing or orally the seven general areas of employment in this cluster (see Appendix) and list two or more occupations in each area.	1.1 Study copies of flow chart with the class and identify jobs available in the local community under each area. 1.2 Students refer to the *DOT* for more examples of jobs in each area. 1.3 Divide class into groups according to interest. Have each group make an in-depth study of one of the general areas and reports to the entire class their findings.	1.1 Refer to U.S.O.E. flow charts for seven areas (see Appendix). 1.2 Make *DOT* available for student use. 1.3 Contact librarian so that material will be available for group work.
2. To enumerate at least ten jobs in this cluster that are readily available within the local community.	2.1 Through class discussion or teacher lecture, define area industries, businesses or agencies that offer consumer or home economics jobs. 2.2 Tour various businesses, industries or agencies that have jobs related to this cluster.	2.1 Refer to local industry or business guide or Chamber of Commerce for list of employers. 2.2 Contact coordinator for field trips.
3. To choose one of the seven general areas from the flow chart and describe the job requirements needed for at least five different occupations in that area.	3.1 Have speakers from various areas of consumer and homemaking occupations address class. 3.2 Have students do independent research or interviewing of local employees.	3.1 Consult local resource guide or State Employment Agency for speakers.

CLUSTER XI: Consumer and Homemaking Education

DEVELOPMENTAL AREA C: Education and Training

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To develop a greater knowledge of the skills, education, and training needed in occupations related to consumer and homemaking education.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To name at least three careers at each job performance level: (entry, mid- management, and professional) and the skills and education needed for each of these careers.	1.1 Discuss the jobs students perform in their own homes that require no formal education and training.	1.1 Check with audiovisual department for related films.
	1.2 Have students wash and iron clothes, make a bed, practice basic child care and cooking a meal in class; relate these to jobs found in local community.	
	1.3 Show films illustrating jobs that require secondary or some post-secondary education.	
	1.4 Have each student list and discuss other jobs at the mid-management level not seen in the film.	
	1.5 Show film describing careers requiring four years of college or more, and discuss these with class.	
	1.6 Have a student interview local home economics teacher concerning her education and training.	

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
2. To name at least one job in each performance level that is found in their own school and describe the training needed for that job.	2.1 Providing the school has a cafeteria, ask the dietitian, head cook, and a worker to give explanations of their jobs.	2.1 Consult cafeteria manager for availability of speakers and tour of cafeteria.
	2.2 Students interview school personnel involved in jobs at each performance level.	
	2.3 Tour cafeteria and point out different jobs.	
3. To name at least two jobs at each performance level that can be found in local institutions, stores or factories.	3.1 Tour a local institution, factory or store and point out specific jobs that require different levels of education and training in home economics.	3.1 Consult local resource file for speakers and field trips.
	3.2 Invite speakers in from local institutions, factories or stores to discuss levels of home economics employment available.	
	3.3 Have students research and write a report listing two jobs at each level that can be found in nearby factories, institutions, or stores.	

CLUSTER XI: Consumer and Homemaking Education

DEVELOPMENTAL AREA D: Economics

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To acquaint students with the economic rewards possible in pursuing occupations in consumer and homemaking education.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURE AND/OR RESOURCE MATERIALS
The student should be able:		
1. To choose two or more occupations that interest him and list current salaries or wage scales for each job.	1.1 Students research available statistics for current salaries or wage scales.	1.1 Check library for research material such as Department of Labor Statistics, or contact local State Employment Agency.
	1.2 Students interview people who are employed in jobs which interest the students.	
	1.3 Students write to employers or employment agencies for typical wages or salaries paid to individuals on these jobs.	
	1.4 Students check job listing in newspapers for wages or salary figures.	
	1.5 Have class prepare large wall chart compiling their findings.	
2. To describe in writing or orally the amount of time and expense that would be required to obtain the necessary skills, education or training needed for one occupation in which he has expressed interest.	2.1 Students research their interest areas by one of the following means: —going to the library for research material, —interviewing people employed in these occupations, —asking school counselor or career coordinator personnel for information.	2.1 Check library for needed information. 2.2 Invite a counselor or career coordinator to talk to the students.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
3. To compare the differences between occupations in this cluster that provide short-term employment with those that provide long-term employment.	3.3 Make a chart listing of all the occupations researched in the above activities.	3.3 Contact employers for lists of part-time and full-time positions.
	3.2 Through class discussion, determine which jobs provide wages, but little incentive for advancement and those that are, or could lead to, profitable full-time careers.	
	3.3 Debate the topic "Are monetary rewards the only reasons for seeking a certain job?" in class.	

CLUSTER XI: Consumer and Home Economics

DEVELOPMENTAL AREA E: Employability and Work Adjustment Skills

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To instill in students the importance of developing good personal behavior and interpersonal relationships that will lead to job success.

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To choose two or more jobs of interest in this cluster and explain the personal attributes needed to attain each job.	1.1 Have students research their job interests to find the skills and attributes required to perform competently at these jobs.	1.1 Have *DOT* or job pamphlet available which list educational and other requirements.
	1.2 Students contact and interview employers or employees involved with these jobs and report on their findings.	
2. To write a resume that could be sent to an employer when seeking a consumer or homemaking job.	2.1 Students construct a sample resume and explain its contents, including: marital status, age, reasons for wanting job, references, experience.	
	2.3 Role-play a job interview by having a student or teacher act as employer who reads the resume then interviews person who wrote it.	
3. To develop a list of items explaining what would be expected of him and what he would expect of fellow workers.	3.1 Arrange for a personnel director to discuss what is expected of employees.	3.1 Check local resource file for speakers.
	3.2 Discuss common expectations of anyone who works on a job that requires working for or with other people.	
	3.3 Role-play conflict situations between employer-employee, foreman-worker, teacher-student and discuss proper procedures for solving the conflict.	

CLUSTER XI: Consumer and Homemaking Education

DEVELOPMENTAL AREA F: Decision-Making

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To become familiar with the steps involved in decision-making, and to learn how to apply it to career choice decisions in consumer and homemaking education.

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To obtain pertinent information about three occupations in consumer and homemaking education which is vital to job selection.	1.1 Have students do independent research in the library for information which they believe is pertinent to career choice.	1.1 Arrange for class to visit library career center.
	1.2 Have students interview people who have jobs in the students' interest areas and write a report on their findings.	
	1.3 Have students discern the availablility of certain jobs by reading newspaper want-ads or checking with State Employment Services or local employment agencies.	
2. To categorize certain interests, traits, and/or talents that may be needed for two or more jobs of interest in the consumer and homemaking cluster.	2.1 Construct a sample chart using the job of interior decorator. Interests: —working indoors —architecture —design —art —working with materials and colors —other interests Traits: —likes to work with people and things —likes to take abstract ideas and turn them into concrete examples —other traits	2.1 Provide students blank charts.

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
	Talents: —usually good at art and design —able to express ideas to people —other talents	
	2.2 Have students make a similar chart for each job in which they have an expressed interest. The chart should include the name of the job, related interests, traits, and talents that may be needed for the job.	
	2.3 After completing charts, have students check the interests, traits and talents which they possess or believe they could develop.	
3. To select two or more jobs in this cluster, identify the positive and negative aspects of those jobs and explain the importance of these aspects on the desirability of the jobs.	3.1 Invite speakers who have jobs in the consumer and home economics cluster to explain negative and positive aspects of their jobs.	3.1 Consult local resource file for speakers.
	3.2 After researching jobs of interest, students should make a list of what they think are positive and negative aspects of working at that job.	

CLUSTER XI: Consumer and Homemaking Education

DEVELOPMENTAL AREA G: Self

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To recognize the importance of one's own interests, aptitudes, values, and feelings in relation to the selection of a career in consumer and homemaking education.

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To give evidence that his own interests and aptitudes could lead to a career in consumer and homemaking education.	1.1 Administer the OVIS or other similar interest surveys and compare results with jobs in this cluster.	1.1 Check with counselor or coordinator for availability of interest and aptitude tests and time needed for administration.
	1.2 Students take General Aptitude Test Battery or other aptitude tests and review results as they relate to specific jobs in this cluster.	1.2 Check on availability of aptitude tests for specific jobs in consumer and home economics.
	1.3 Students select two or more jobs in which they have expressed interest and list special aptitudes needed for those jobs.	
	1.4 Students take simplified aptitude tests which relate to specific job chosen in 1.3.	
2. To explain how his interests in school subjects or extra-curricular activities are related to jobs available in consumer and homemaking education.	2.1 After listing school subjects liked and disliked, students compare these with chosen jobs to determine if a student's interests are similar to interests needed to perform at those jobs.	
	2.2 Have a panel of students explain to the class how extra-curricular activities in which they participate could be associated with jobs in consumer and home economics.	

<table>
<tr><th>PERFORMANCE OBJECTIVE</th><th>ACTIVITIES</th><th>PROCEDURES AND/OR RESOURCE MATERIALS</th></tr>
<tr><td>3. To review his own leisure-time activities and hobbies, relating them to possible career choices in consumer and homemaking education.</td><td>3.1 The class prepares bulletin board or display showing hobbies and leisure-time activities and the jobs they relate to in this cluster. Use the following as an example:
<table>
<tr><th><i>leisure-time</i></th><th><i>career</i></th></tr>
<tr><td>sewing</td><td>dressmaker/ tailor</td></tr>
<tr><td>painting or drawing</td><td>fashion artist
interior designer</td></tr>
<tr><td>cooking</td><td>chef, cook, dietitian</td></tr>
<tr><td>babysitting</td><td>nursery school teacher</td></tr>
<tr><td>construction models</td><td>toy designer
design engineer</td></tr>
</table>
3.2 Students give an example of at least one job in consumer and homemaking education that could relate to their leisure-time activities or hobbies.</td><td>3.1 Provide students with cameras and films.</td></tr>
</table>

JOB CLUSTER XII

HOSPITALITY AND RECREATION

JOB CLUSTER XII

HOSPITALITY AND RECREATION

A. Rationale

This cluster covers a vast and ever-expanding area of occupations. As more leisure time becomes available to many Americans, the demand for hospitality and recreation facilities will increase. Coupled with this demand for more facilities will be the need for more trained personnel to fill the many and varied jobs related to leisure-time activities.

Some jobs in this cluster overlap with those found in other clusters such as environment, natural resources, health, personal services and others. Careers in this cluster involve areas such as: hotel-motel management, resorts, parks, youth services, medical recreation, physical education, commercial recreation and tourism to name a few. A more detailed break-down can be seen in the occupational flow charts.

B. Hospitality and Recreation in the Curriculum

Due to the variety of careers in this cluster, discussion in any of the subject areas is practicable and reasonable. The subject area most closely related would be physical education, due to its involvement with recreation. A review of the sample careers and occupational flow charts (see Appendix) can help one decide how extensively this guide can be used in the various subject areas.

C. Typical careers in Hospitality and Recreation include:

Lifeguard	Water Safety Instructor	Swim Club Manager
Park Maintenance Worker	Park Ranger	Park Manager
Golf Course Maintenance Worker	Greenskeeper	Golf Course Superintendent
YMCA/YWCA Physical Education Teacher	YMCA/YWCA Recreation Director	YMCA/YWCA Executive (membership, program, etc.)
Ski Instructor	Ski School Director	Ski-Resort Manager
Guide, Historical Site	Historian of Historical Site	Director of Historical Site
Assistant Coach	Head Coach	Athletic Director
Clerk and Travel Agency	Tour Director	Travel Agent
Recreational Vehicle Maintenance Man	Recreational Vehicle Salesman	Owner Recreational Vehicle Agency
Summer Camp Counselor	Summer Camp-Program Director	Summer Camp-Superintendent
Auto-Racing Mechanic	Auto-Racing Driver	Auto-Racetrack Owner/Manager
Recreation Therapy Aid	Recreation Therapy Leader	Director of Recreation Therapy
Animal Keeper	Zoological Curator	Zoo Director
Amusement Park Ride Operator	Amusement Park Maintenance Manager	Amusement Park Director/Manager
Actor/Actress	Director (theatre)	Producer (theatre)
Desk Clerk, Hotel/Motel Resort	Assistant Manager-Hotel/Motel resort	Owner/Manager of Hotel/Motel resort.

CLUSTER XII: Hospitality and Recreation

DEVELOPMENTAL AREA A: Individual and Environment

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To discover the inter-dependency of the individual and environment on occupations in hospitality and recreation.

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1. To choose a general area of interest in this cluster, name at least five careers in that area, and explain how they, or certain individuals in society, are dependent upon the services offered by these occupations for hospitality or recreation.	1.1 Students choose and research jobs in a general area related to hospitality and recreation, for example, —resorts —hotel/motel management —parks —youth services —medical recreation —physical education —commercial recreation —tourism —industrial recreation —other areas.	1.1 Provide hand-out of general areas and examples of related jobs. 1.2 Check audiovisual center for films.
2. To, after reviewing all the areas in this cluster, make a list of at least ten of the occupations with which he has come in contact with in the last year.	2.1 Students should compare the lists they have prepared. 2.2 Have some students develop a large chart or bulletin board from information gathered. 2.3 Chart areas in which most occupations are listed and the types of occupations.	

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
3. Describe three or more hobbies or recreational activities he or his family have done that are connected with or could lead to full-time recreation occupations.	3.1 Have students role-play the planning of an imaginary vacation trip. The remainder of the class note the occupations in hospitality and recreation that these people would come in contact with in the course of their trip. 3.2 Ask each student to mention at least one hobby or recreational activity they do regularly and explain how this is connected to a job or jobs in this cluster.	

CLUSTER XII:

DEVELOPMENTAL AREA B: World of Work

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To become familiar with the many, varied occupations in the hospitality and recreation cluster within the community.

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To identify, in writing or orally, the five general areas of employment in this cluster (as found in the flow chart) and to list two or more occupations in each area.	1.1 Explain and discuss the flow chart (see Appendix) and identify jobs available in the community under each area.	1.1 Provide USOE flow charts, *DOT* and *Occupational Outlook Handbook*.
	1.2 Divide class into groups according to interest. Have each group make an in-depth study of one of the general areas, listing jobs found in the community, employment conditions, and salaries, and report their findings to the class.	1.4 Ask librarian to have materials available for student use.
	1.3 Have students make a display showing the five general areas of this cluster, and sample jobs under each.	
2. To give examples of at least ten jobs in this cluster that are found in local businesses or agencies.	2.1 Through class discussion or teacher lecture, define area industries, businesses, or agencies that offer jobs in hospitality and recreation.	2.1 Refer to local resource guide or Chamber of Commerce for job areas in the community.
	2.2 Tour various businesses, industries, or agencies that have jobs related to this cluster.	

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
3. To choose one of the five general areas from the flow chart and describe the job requirements for at least five different occupations in that area.	3.3 Have students do independent research or interview local employees who work at hopsitality and recreation jobs. 3.2 Invite speakers from different job areas of hospitality and recreation to address class regarding job requirements.	3.1 Consult local resource file for speakers.

CLUSTER XII: Hospitality and Recreation

DEVELOPMENTAL AREA C: Education and Training

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To become knowledgeable about the skills, education, and training needed in occupations related to hospitality and recreation.

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To list at least three careers in each of the hospitality and recreation subgroups by levels of job performance—entry, mid-management, and professional—and to describe the skills and education needed for each job.	1.1 Define and discuss the terms entry, midmanagement and professional as related to careers.	1.1 See audiovisual department for available material.
	1.2 Have each student research careers and complete a paper or chart that classifies careers according to job performance levels.	
	1.3 Show films that depict hospitality and recreation jobs. Use these as discussion material to define job performance levels.	
2. To name at least one job in each performance level that is found in his school system and explain the education and training needed for that job.	2.1 Ask school personnel involved in recreation-based occupations to speak to classes, e.g. physical education teacher, coach, atheletic director.	2.1 Consult local resource file for speakers.
	2.2 Students interview or write reports about jobs at each performance level in which school personnel are involved.	

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
3. To name at least two jobs at each performance level that can be found in local institutions, youth agencies, stores, factories, or businesses.	3.1 Tour local institutions, agencies, factories or businesses to view jobs that involve hospitality and recreation.	3.1 Consult local resource file for field trips and speakers.
	3.2 Speakers from local establishments address class on jobs they do in hospitality and recreation areas.	
	3.3 Have each student research and write a report listing two jobs at each level of performance that are found in local establishments.	

CLUSTER XII: Hospitality and Recreation

DEVELOPMENTAL AREA D: Economics

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To acquaint students with the economic rewards possible in pursuing occupations in hospitality and recreation.

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To choose two or more occupations in hospitality and recreation that interest him and list current salaries or wage scales for that job.	1.1 Provide time for library research on available statistics for current wage scales or salaries.	1.1 Check library for research material such as the Department of Labor Statistics or contact the local State Employment Service.
	1.2 Students write or call employers or employment agencies for information on typical wages or salaries paid for the selected jobs.	
	1.3 Students check listings in newspapers for wage and salary figures.	
	1.4 Students interview people employed in hospitality and recreation jobs and report findings to class.	
2. To describe in writing or orally the amount of time and expense required to obtain the necessary skills, education, or training needed for the occupation in which he has expressed interest.	2.1 Students research their interest areas by: —using library research materials. —interviewing people employed in these occupations. —asking school counselor or career orientation personnel for information.	2.1 Check library for needed information. 2.2 Ask counselor or career coordinator to talk to class.

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
3. To identify the financial differences between occupations in this cluster that provide short-term employment, with those that provide long-term employment.	3.1 Make a chart listing all the occupations researched in the above activities. Through class discussion, determine which jobs provide wages but little incentive for advancement, and those that are, or could lead to, profitable full-time careers.	
	3.2 Have a class discussion or debate on "Are monetary rewards the only reasons for seeking a certain job?"	

CLUSTER XII: Hospitality and Recreation

DEVELOPMENTAL AREA E: Employability and Work Adjustment Skills.

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To instill in students the importance of developing good personal and inter-personal behavior that will lead to job success.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To choose at least two careers in this cluster and be able to explain the personal attributes needed to attain and perform competently in these careers.	1.1 Have students research jobs that interest them in hospitality and recreation to find out what skills and attributes are needed to hold these jobs.	1.1 Check library for materials available.
	1.2 Students contact and interview employees or employers in these jobs and report their findings to the class.	
2. To fill out an application form or write a resume that would be given to an employer when seeking a job in hospitality or recreation.	2.1 Fill out sample job application forms.	2.1 Devise application form or contact local employers for samples.
	2.2 Students explain contents of a resume, e.g. marital status, age, experience, references, reasons for seeking a job.	
	2.3 Write a sample resume.	
	2.4 Role-play a job interview.	
3. To develop a list of skills that would be expected of him or his fellow workers in a specific job in hospitality and recreation.	3.1 Discuss the personality and other requirements needed for a job that requires working with or for other people.	
	3.2 Have the class develop a list of common attributes that people working in hospitality and recreation might have.	

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
	3.3 Each student selects a job that interests him in this cluster and describes what would be expected of him.	
4. To compare three careers in hospitality and recreation in regard to amount of work adjustment needed on the job.	4.1 Students analyze the jobs to determine the different tasks performed and extent of variety involved.	4.1 Use career literature. 4.2 Students interview workers on the job.

CLUSTER XII: Hospitality and Recreation

DEVELOPMENTAL AREA F: Decision-Making

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To provide the student with the ability to recognize the steps involved in the process of decision-making and the knowledge to apply these steps to career choice decisions in hospitality and recreation.

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To locate and obtain pertinent information about three occupations in hospitality and recreation careers necessary for job selection decisions.	1.1 Assign students independent research in the library for information which they believe is necessary when considering the selection of a specific occupation in this cluster.	1.1 Arrange for class to visit library or career center. 1.2 Provide open-ended interview forms.
	1.2 Students interview people who have jobs in their interest areas and write a report on the interview.	
	1.3 Students ascertain the availability of certain jobs by reading newspaper want ads or by checking with State Employment Services or private agencies.	
2. To categorize certain interest, traits and/or talents that may be needed for two or more jobs in the hospitality and recreation cluster in which he has a specific interest.	2.1 Students make a chart for each job in which they have an expressed interest. List job, then make three columns and list interest, traits and talents that may be needed for the job.	2.1 Students interview workers. 2.2 Provide films, etc., which describe hospitality and recreation jobs.
	Job: Physical Education Instructor Interest: —sports —athletic competition —working outdoors, and indoors —physical activity on the job —other interests	

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
	Traits: —likes to work with people —wants to instill in others an interest in health and physical activity. —able to communicate to others how to do certain physical activities Talents: —usually good at athletics —able to instruct with large groups of people other talents	
	2.3 After completing charts, students check the interests, traits and talents which they possess or believe they could develop.	
3. To select two or more jobs in this cluster, identify the positive and negative aspects of those jobs and explain the importance of these aspects on the desirability of those jobs.	3.1 After researching jobs of interest, students should make a list of the positive and negative aspects.	3.1 Consult local resource file for speakers.
	3.2 Invite speakers who have jobs in hospitality and recreation to explain negative and positive aspects of their jobs.	

CLUSTER XII: Hospitality and Recreation

DEVELOPMENTAL AREA G: Self

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To help the student evaluate interests, aptitudes, values, and feelings in regard to choosing a career in hospitality and recreation.

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To evaluate his own interests and aptitudes with at least three careers in hospitality and recreation.	1.1 Administer and interpret OVIS or other similar interest survey and compare individual results with jobs in this cluster.	1.1 Check with counselor or coordinator for availability of OVIS, GATB and time needed for administration and interpretation.
	1.2 Administer the GATB or other aptitude tests and review results as they relate to essential aptitudes for specific jobs in hospitality and recreation.	1.2 Check on availability of aptitude tests for specific jobs in hospitality and recreation.
	1.3 Have each student list two or more jobs in which he has expressed interest and list special aptitudes needed for those jobs.	
	1.4 Allow students to take simplified aptitude tests which relate to specific jobs chosen.	
2. To explain how his interests in school subjects or extra-curricular activities are related to jobs in hospitality and recreation.	2.1 Each student lists the school subjects liked and disliked. Students compare these lists with jobs chosen in 1.3 to see if a student's interests correlate with his subjects.	
	2.2 Have a panel explain how extra-curricular activities in which they participate could be assoicated with job areas in this cluster.	

PERFORMANCE OBJECTIVES

3. To review his own leisure-time activities and hobbies and show how they relate to at least three jobs in hospitality and recreation.

ACTIVITIES

3.1 Create a chart on the board that relates leisure-time activities and careers, such as:

Leisure-Time	Career
golf	golf pro
hunting	game warden/
fishing	professional guide
church activities	church recreation director
babysitting	playlady-childrens day care
hiking-camping	camp counselor or director
photography	professional photographer at atheletic events
playing musical instrument	professional musician

3.2 Have the class devise a bulletin board or display showing hobbies and leisure-time activities and the jobs they relate to in this cluster.

3.3 Students give an example of at least one job in hospitality and recreation that could relate to their leisure-time activities and/or hobbies.

PROCEDURES AND/OR RESOURCE MATERIALS

JOB CLUSTER XIII

FINE ARTS AND HUMANITIES

JOB CLUSTER XIII

ARTS AND HUMANITIES

A. Rationale

The arts and humanities add much to the culture of our society. This cluster is the culmination of culture handed down from the beginning of history. Each generation adds its contribution and passes that knowledge down to the next generation through arts, performing arts, literature, history and music. Under the fine arts classification, we find the categories of creating, performing, performing arts and design, performing arts and production, artistic management, visual and graphic design and media.

B. Arts and Humanities Careers in the Curriculum

Study of arts and humanities would be found primarily in the areas of reading or literature, social studies, English, art, and music. The trend of teaching history and English simultaneously is greatly enhanced by utilizing the cluster approach. In addition, much of this material could be covered by teachers of art and music or with the unit approach; art and music teachers might act as resource people who aid the classroom teacher as he incorporates the arts and performing arts into curriculum design.

C. Typical Careers in Arts and Humanities include:

- Novelist
- Poet
- Essayist
- Foreign Language Teacher
- Interpreter
- Tour Guide
- Historian
- Museum Curator
- Anthropologist
- Artists
- Arranger
- Lyricist
- Actor
- Conductor
- Set Designer
- Miniature-Set Designer
- Wardrobe Coordinator
- Producer
- Manager
- Choreographer
- Public Relations Director
- Personnel Director
- Illustrator
- Industrial Designer
- Fashion Designer
- Furniture Designer
- Film Editor
- Cameraman
- Sound Control Operator
- Film Processor

CLUSTER XIII: Arts and Humanities

DEVELOPMENTAL AREA A: Individual and Environment

DEVELOPMENTAL GOAL NO. 1: To help students recognize the available careers in the arts and humanities.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1. To identify five occupations which contribute to permanent recording of our culture for future generations in the areas of arts and humanities.	1.1 Have students read exploratory career summaries or career briefs.	1.1 Provide adequate resources.
	1.2 Discuss the ways in which culture is recorded in art, music, performing arts and literature.	1.2 Consult local resource file for speakers.
	1.3 Have students list occupations in arts and humanities which reflect our culture.	
	1.4 Have a docent from an art institute speak with class on role of institute.	
2. To compare the mediums for expression in arts and humanities and identify one type of occupation in each medium which reflects him and his environment.	2.1 Have each student select and read career briefs on careers such as writers, dancers, musicians, actors, etc.	2.1 Provide career briefs, *DOT*, *Occupational Outlook Handbook* and other references.
3. To determine the individual interests and abilities necessary for three different careers in the arts and humanities.	3.1 Have students study the nature of careers in this cluster.	3.1 Have a study unit in careers in arts and humanities.
	3.2 Students discuss careers with people now working in this field.	3.2 Secure career literature in this field.
		3.3 Arrange interview.

CLUSTER XIII: Arts and Humanities

DEVELOPMENTAL AREA B: World of Work

DEVELOPMENTAL GOAL NO. 1: To orient the student to the world of work and problems faced by persons engaged in careers in arts and humanities.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To select three possible careers in arts and humanities and explain their value to the total balance of society.	1.1 Arrange a job fair with a choice of speakers. 1.2 Ask students to list three work areas which interest them most and tally the results.	1.1 Arrange speakers. 1.2 Coordinate teacher activities. 1.3 Meet with teachers in your building and divide responsibilities so each teacher will locate and invite two of the speakers so the groups will be small. 1.4 List speakers scheduled and let students list first, second and third choices. 1.5 Arrange two twenty-five minute periods with each student scheduled for two speakers. 1.6 Ask the home economics class to plan the refreshments, art class to make posters and the music department to provide music for first five minutes and group change.
2. To identify a problem concerning technology in radio, television, theater or motion pictures and explain how the problem may affect the occupations of persons engaged therein.	2.1 Visit a television and radio station to interview television and radio personalities. 2.2 Arrange to visit a rehearsal of an opera company, civic music group or rock group and interview the musicians.	2.1 Consult local resource file for field trip. 2.2 Provide tape recorders and tape.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
	2.3 Have buzz sessions in which the students discuss the interviews and decide which problems are foremost.	
3. To identify at least three possible arts and humanities careers in the local area that might be of interest to him.	3.1 Create a list of careers and then determine their make-up.	3.1 Secure career briefs, leaflets, films and/or other items for student use.
	3.2 Have students reread career briefs for background material. Have each student select and read a book or an article and then compare experiences in the book to those discovered in the interviews.	3.2 Arrange for resource persons to visit class.

CLUSTER XIII: Arts and Humanities

DEVELOPMENTAL AREA C: Education and Training

DEVELOPMENTAL GOAL NO. 1: To become knowledgeable about the relationship between a career in arts and humanities and type of education required.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1. To identify the training necessary for careers in arts and humanities.	1.1 Have a group of students interview the music teachers in the school and write to a music school for educational information.	1.1 Provide tape recorder and tape for interviews.
	1.2 Contact local and state universities and colleges for educational requirements and courses offered.	1.2 Provide names and addresses of colleges and universities.
	1.3 Have each student write a short paper on ways of preparing for careers that interest him in acting, dancing, music, and so forth.	
2. To identify the educational requirements for selected occupations in arts and humanities.	2.1 Have each student read educational requirements found in career summaries and briefs.	2.1 Provide reference materials.
	2.2 Invite speakers from community college, state university, art institute, and museum of natural history to discuss their training with students.	2.2 Consult local resource file for speakers.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
3. To demonstrate his ability to use skills needed by persons engaged in at least three occupations in arts and humanities.	3.1 List typical skill terms on the board and discuss them with the class: observing hypothesizing interpreting imagining summarizing	
	3.2 Accent areas of social studies, language arts, music, art and recreation for development in areas of arts and humanities.	

CLUSTER XIII: Arts and Humanities

DEVELOPMENTAL AREA D: Economics

DEVELOPMENTAL GOAL NO. 1: To orient the student to the economic aspect of careers in the arts and humanities.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To identify three careers in arts and humanities and relate the value of a fair day's work for a fair day's pay.	1.1 With the class, plan a mass production project such as the construction of some type of ceramic molding and painting project or Tiki carving with each doing only one small section.	1.1 Provide materials for simulation profit.
	1.2 Keep a list on the board of the cost of raw materials.	
	1.3 Have each student punch a time card or list exact time he begins and finishes working. Figure total cost of labor if paid X amount per hour.	
	1.4 Compute the cost of product and the profit or loss.	
2. To create a budget based on the salaries received by persons employed in three specific levels of arts and humanities jobs.	2.1 Have students clip ads from daily newspaper which state current salaries.	2.1 Furnish recent newspapers, budget handouts and other related materials.
	2.2 Discuss items included in family budget.	
	2.3 Use figures from building and loan banks as current source of amount spent for each item in budget.	
	2.4 Review use of percentage problems needed and compute actual budget figures.	
	2.5 Compare these figures in standard census figures and to a welfare budget.	

CLUSTER XIII: Arts and Humanities

DEVELOPMENTAL AREA E: Employability and Work Adjustment Skills

DEVELOPMENTAL GOAL NO. 1: To become familiar with employment patterns in the arts and humanities in his community.

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To identify three sources of employment in arts and humanities.	1.1 Invite personnel interviewer from Ohio State Employment Office or private employment agencies to visit class. 1.2 Clip ads from local newspapers and trade journals from art supply, performing arts, writers' guild, and other specialized groups. 1.3 Have the class create a bulletin board on available sources.	1.1 Consult local resource file for speakers. 1.2 Obtain trade journals and related references.
2. To relate the personal qualities necessary for employability in at least three careers in arts and humanities.	2.1 Divide class into groups and have them research job requirements for careers of their interest.	2.1 Provide research materials—films, career literature—for student use.
3. To determine the extent of adaptability and adjustments needed in three different careers in arts and humanities.	3.1 Have class units on job descriptions and qualities.	3.1 Have speaker visit class to discuss versatility needed in various jobs.

CLUSTER XIII: Arts and Humanities

DEVELOPMENTAL AREA F: Decision Making

DEVELOPMENTAL GOAL NO. 1: To develop skills that will enable the student to make wise decisions in arts and humanities careers.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To identify at least five items to consider when making a career choice.	1.1 Pass out outline below and discuss with class. Range of Career Choices Importance of Proper Choice The Individual's Choice Time Involved in Making Career Decision Interests and Abilities How to Measure Job Ability How to Measure Job Interest Sources of Help	1.1 Provide handout list for students.
	1.2 Have each student create a folder entitled *My Career Planner.*	
	1.3 Ask high school counselor to explain the importance of decision-making skills.	
2. To use instruments of evaluation such as inventories and test profiles to make valid decisions regarding three possible career choices in the arts and humanities.	2.1 Provide talent inventory tests on writing, art, and design, or provide a mannequin for interested students to design fashions or hair styles.	2.1 Provide talent inventories and other materials. 2.2 Ask guidance counselor to talk to students.
	2.2 Ask the guidance counselor to explain the purpose of such talent tests and their interpretation.	
	2.3 Have students interview persons in related fields to determine their talents and interests.	

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
	2.4 Have each student select one career and determine whether or not he has the needed skills and interests.	
3. To rank ten arts and humanities careers in terms of amount of decision-making ability required by an employee.	3.1 Students select ten careers of interest and then gather information regarding decision-making requirements of each.	3.1 Arrange for career literature. 3.2 Arrange for student interviews with employees.

CLUSTER XIII: Arts and Humanities

DEVELOPMENTAL AREA G: Self

DEVELOPMENTAL GOAL NO. 1: To help students become knowledgeable about the relation of their interests and abilities to arts and humanities careers.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1. To identify at least three of his personal strengths and weaknesses as related to careers in the Arts and Humanities.	1.1 Discuss how to identify strengths and weaknesses.	1.1 Contact guidance counselor about giving the OVIS and GATB.
	1.2 List strong and weak points and discuss how to improve.	
2. To list two goals in life that are most important to him, and evaluate these in terms of a career in arts and humanities.	2.1 Discuss topics which might be important, such as money, social position, education, and helping others.	2.1 Set up employee contacts for interview by students.
	2.2 Have each student list two things most important to him.	
3. To identify at least three careers in the arts and humanities that may meet his personal interests, aptitudes and abilities.	3.1 Have a class session on career selection.	3.1 Utilize available career literature from library or guidance office.
	3.2 Have each student summarize his personal qualities in writing.	
	3.3 Have resource person discuss the nature of various jobs.	

JOB CLUSTER XIV

MANUFACTURING

JOB CLUSTER XIV

MANUFACTURING

A. Rationale

A study of manufacturing deals with the methods and processes which man uses to make a product for his satisfaction and comfort. Manufacturing organizations may be large plants with many employees such as automative assembly plants or large plants with few employees such as an oil refinery. There are also many small manufacturing shops employing ten or fewer people. Food processing plants are considered to be manufacturing but farms are not; likewise, metal refining operations are included but mining operations are excluded. In general a product, not a service, is produced in manufacturing. Manufacturing is the largest occupational cluster and employs approximately 20 million persons.

B. Manufacturing in the Curriculum

Manufacturing is directly related to the industrial arts curriculum; however, every subject area provides skills essential to jobs in manufacturing jobs. Social studies provide insight into interpersonal relationships between employees and provide knowledge about the needs and resources of societies. Economic interdependence and the social impact of modern mass production capabilities also connect social studies to manufacturing. Communication skills (English and foreign languages) are vital both within the organization and in relation to advertising. Similarly a manufacturing operation's efficiency is directly related to the available skill in applying mathematics and science to the task at hand. For some products, efficient manufacturing is of little avail if the product is not as attractive as that of a competor; therefore art is significantly related to manufacturing. Health and environmental considerations are becoming increasingly significant to the producer, the employee, the consumer and the community in which the manufacturing plant is located.

Extensive curriculum material for the topic of manufacturing has been developed by the U.S.O.E. "Industrial Arts Curriculum Project" conducted by the Ohio State University in conjunction with the University of Illinois. This commercially produced material could be used as the basis for an industrial arts program in which manufacturing is studied for the entire school year. Such a program could easily surpass the objectives of the curriculum outlined in this guide. This guide is designed to aid schools that have not incorporated extensive career orientation curriculum related to manufacturing into their industrial arts program. With adequate interest, imagination and flexibility on the part of teachers and administrators most, if not all, of the content and activities described in this guide could be incorporated into the industrial arts, mathematics, science, English, social studies, and art curriculum.

C. Typical occupations in Manufacturing include:

Process Inspector
Assembler
Inventory Clerk
Scrap Baller
Stock Clerk
Material Handler
Machine Assembler
Material Clerk
Freight-Rate Clerk

Test Technician
Laboratory Tester
Standard-Practice Man
Material Coordinator
Package Designer
Design Checker
Waste Treatment Operator
Advertising Analyst

Operation Research Analyst
Production Superintendent
Public Relations Man
Employment Manager
Product-Design Engineer
Market Research Analyst
Applied Statistician
Engineering Assistant
Materials Engineer

This list can be expanded by using the *Dictionary of Occupational Titles* or *Vocational Education Occupations* which may be purchased from the Superintendent of Documents, U.S. Government Printing Office.

CLUSTER XIV: Manufacturing

DEVELOPMENTAL AREA A: Individual and Environment

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To help students realize the relationship of manufacturing careers to the individual and his environment.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To list ways which at least three different manufacturing jobs affect other workers and the community.	1.1 Prepare a vocabulary list and have students write manufacturing-related definitions of: pollution child labor monopoly deceptive advertising zoning regulations building codes scab planned obsolescence price fixing fair employment practice lockout 1.2 Ask a plant supervisor to discuss his work in the regulating of employee practices and behavior. 1.3 Have students visit regulatory agencies and manufacturing firms.	1.1 Provide library resource materials for reference. 1.2 Consult local file for speakers and field trips.
2. To list and give examples of at least six types of governmental regulations on manufacturing workers.	2.1 Add to the list prepared in 1.1 the following terms: strike safety equipment apprenticeship union social security mandatory retirement age moonlighting closed shop medicare withholding tax	2.1 Provide library reference materials. 2.2 Consult local resource file for speakers.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
	2.2 Have a speaker from the social security office explain disability insurance and survivorship benefits to the class.	
3. To identify the local manufacturing firms in the area and the number of jobs available each year.	3.1 Make a survey, as a class project, of local manufacturing industries.	
	3.2 Contact companies for employment figures.	

CLUSTER XIV: Manufacturing

DEVELOPMENTAL AREA B: World of Work

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To learn about the many occupations in manufacturing organizations located both within and outside of the local community.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1. To prepare a one-page description of occupations in manufacturing.	1.1 Ask resource speakers to discuss their job and related careers in manufacturing.	1.1 Consult local resource file for speakers.
	1.2 Show at least two films depicting the operations of manufacturing concerns.	1.2 Check with audiovisual department for related films.
	1.3 List the careers mentioned by the role models and in the films.	
2. To list ten jobs in manufacturing.	2.1 Discuss the U.S.O.E. flow charts with students (see Appendix).	2.1 Provide copies of U.S.O.E. flow charts.
	2.2 Show several films on manufacturing careers and list careers on board.	2.2 Check with audiovisual department for films.
	2.3 Explain how to catagorize careers into U.S.O.E. subgroupings.	
3. To prepare a display of people at work in manufacturing in the community.	3.1 Arrange for a field trip where students can photograph manufacturing workers.	3.1 Consult local resource file for field trips. Provide cameras and film.
	3.2 Arrange pictures in a classroom display.	
4. To prepare a detailed job analysis of five jobs in manufacturing.	4.1 Make a list on the board of the type of information needed in the reports, including job title duties educational requirements	

CLUSTER XIV: Manufacturing

DEVELOPMENTAL AREA C: Education and Training

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1. To realize the education and training requirements of different occupations in manufacturing.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1. To locate information about the educational and training requirements for at least five jobs in at least three of the U.S.O.E. subgroups.	1.1 Assign students to groups according to interests. 1.2 Have each group identify education and training requirements for jobs in their area of interest. 1.3 Prepare a composite chart for the class.	1.1 Provide U.S.O.E. flow charts. 1.2 Provide career kits and other related reference materials.
2. To list education and training requirements for at least four manufacturing jobs described by a role model.	2.1 Ask several role models to discuss education and training requirements. 2.2 Have students research requirements not mentioned by speakers.	2.1 Consult local resource file for speakers. 2.2 Provide related reference materials.
3. To identify three careers of interest and to report the name and location of training institute, length, and cost of training.	3.1 Provide class time for students to research necessary information. 3.2 Create a permanent room file of the information obtained.	3.1 Consult local resource file for speakers. 3.2 Provide copies of high school course offerings.
4. To select high school courses related to his tentative career choice.	4.1 Ask representative from local high school or vocational school to discuss high school preparation for manufacturing careers.	

CLUSTER XIV: Manufacturing

DEVELOPMENTAL AREA D: Economics

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To discover the significance of manufacturing careers to the economic well-being of individual workers.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1. To describe three new careers in manufacturing for the time periods of the 1900's, 1940's, and 1970's.	1.1 Have each student prepare a written report on this topic using library references.	1.1 Provide reference materials for students.
	1.2 Show films depicting the given time periods.	1.2 Check with audiovisual department for related films.
	1.3 Have groups of students prepare displays illustrating the given time periods.	1.3 Provide cameras and film.
2. To list three ways in which modern manufacturing techniques increase the amount of goods available to each individual.	2.1 View films or discuss the industrial revolution and mass production assembly lines.	2.1 Check with audiovisual department for films.
	2.2 Discuss how division of labor increases production but makes each worker more dependent on the actions of other workers.	2.2 Provide handouts containing openended questions for class discussion.
	2.3 Plan a simulation experience in the classroom and have each student write a report on his experiences.	
3. To determine the beginning and average salaries for at least three careers in manufacturing.	3.1 Students interview employer to learn salary information.	3.1 Make initial contacts with employer.

CLUSTER XIV: Manufacturing

DEVELOPMENTAL AREA E: Employability and Work Adjustment Skills

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To discover that good personal and interpersonal behavior can contribute to job attainment and advancement.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1. To locate five advertisements for manufacturing careers and list employability requirements.	1.1 Have students cut want-ads from local newspapers.	1.1 Provide classified ad section from recent newspapers.
	1.2 Create a bulletin board of the want ads.	
2. To list five personality attributes often requested by employers.	2.1 Have students collect want ads that mention personality requirements.	
	2.2 Each student makes a list of these requirements in alphabetical order.	
	2.3 Make a composite list from the individual lists.	
3. To recognize and define ten terms found in want ads for manufacturing careers that indicate adjustment skills needed for employability.	3.1 Have students cut want ads from newspapers.	3.1 Provide classified ad section from recent newspapers.
	3.2 Divide students into groups of four students and have them combine their lists.	
	3.3 Play a game in which each team scores a point for each term or abbreviation that can't be explained by the rest of the students.	

CLUSTER XIV: Manufacturing

DEVELOPMENTAL AREA F: Decision-Making

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To understand decision-making techniques and their application to career choice decisions.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To list at least four factors that could influence the selection of a specific manufacturing career.	1.1 Ask each student to make a tentative manufacturing job selection.	1.1 Prepare a check list of factors that might influence career choice.
	1.2 Without further discussion, ask each student to write a one-page report explaining his choice.	
	1.3 Create a list of factors influencing job selection on the board; list should include: wages or salary number of openings growth of occupation indoor vs. outdoor work working hours working with data, people or things routine work challenging job previous interest known aptitude amount of training	
2. To identify three careers in manufacturing that require little decision-making ability and three that require much decision making ability.	2.1 In library or guidance office, students research information.	2.1 Notify library and guidance office so materials will be available.
	2.2 Students compare information presented by various sources such as U.S. Government, commercial publications, etc.	2.2 Collect publication and develop in room library.

CLUSTER XIV: Manufacturing

DEVELOPMENTAL AREA G: Self

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To help students discover the importance of their own interests, aptitudes, and abilities in relation to tentative career decisions.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To analyze his interests, abilities, and attitudes and identify three careers in manufacturing which most nearly match his personal characteristics.	1.1 Administer OVIS or other interest inventory to students and interpret results.	1.1 Check with guidance department for OVIS and time needed to administer and interpret results.
	1.2 Have each student select three jobs of interest and research special interests needed.	1.2 Provide adequate reference materials.
	1.3 Have students take simplified aptitude tests for the jobs they have selected (if available).	
2. To identify out-of-school pupil activities related to manufacturing occupations.	2.1 Have a group of students construct a bulletin board of hobbies and part-time jobs that relate to a career in manufacturing.	2.1 Provide materials for display.
	2.2 Ask a representative from Junior Achievement to explain how their activities are related to manufacturing.	2.2 Consult local resource file for speakers.
3. To list three or more school subjects that are related to a manufacturing career of interest.	3.1 Ask each student to list the school subjects that he likes and dislikes.	
	3.2 Have each student compare this list with the list of aptitudes required for the job selected.	

JOB CLUSTER XV

CONSTRUCTION

JOB CLUSTER XV

CONSTRUCTION

A. Rationale

A study of construction deals with the ways in which man reshapes his natural and structural environment to suit his needs and comfort. Construction firms may be large with offices across the nation or may be small firms having less than half a dozen employees; they work on both private and governmental enterprises including building houses, office buildings, factories, schools, recreational facilities, and roads. The construction occupational cluster is similar in size to the agriculture cluster and employes approximately four million persons, half of whom are skilled craftsmen.

B. Construction in the Curriculum

Construction is directly related to industrial arts, however, every subject area develops skills essential to construction. Social studies provides insight into interpersonal relationships between employees and provides knowledge about the needs and resources of societies. Economic interdependence and the social impact of modern construction capabilities also connect social studies to construction. Communication skills (language arts and foreign languages) are vital both within construction firms and in relation to operations in foreign countries. Every construction project is involved with aesthetic considerations, hence the art curriculum is directly related to construction. A construction firm's capabilities and efficiency are directly related to the mathematical and scientific tasks. Health and environmental considerations are becoming increasingly significant to the employer, the employee, the purchaser, and the community in which the construction project is located.

Extensive curriculum material for the topic of construction has been developed by the U.S.O.E. "Industrial Arts Curriculum Project," conducted by the Ohio State University in cooperation with the University of Illinois. This commercially available material could be used as basis for an industrial arts program in which construction is studied for the entire school year. Such a program could easily surpass the objectives of the curriculum outlined in this guide. With adequate interest, imagination and flexibility on the part of teachers and administrators most, if not all, of the content and activities described in this curriculum guide could be incorporated into the industrial arts, mathematics, science, language arts, social studies, art or other subject matter areas.

The U.S.O.E. has identified major activities in construction as:

1. *Operations*—Includes top management involved with making and administering policy, mid-management, supervision of construction workers, and personal services.
2. *Design*—Includes architectural and civil engineering specialities.
3. *Contracting*—Includes manpower used in the application and procurement of material; also included is equipment operation, scheduling, expediting, and security operations.
4. *Interior*—Includes interior structural design and illustration, design, selection and installation of both decorations and furnishings.
5. *Landscaping*—Includes nursery operations and provisions for ground maintenance.
6. *Land Development*—Includes site preparation and utilities.
7. *Fabrication and Installation*—Includes field operations building systems and fabrication. These involve foundation structural work, finishing operations, prefabrication and field assembly.

In general, semi-skilled and professional jobs are available in each of the seven subgroups listed above, although operation and design have relatively few semi-skilled jobs.

C. Typical occupations in Construction are:

- Electrician
- Plumber
- Carpenter
- Stonemason
- Ditchdigger
- Rodman
- Glazier
- Grounds Keeper
- Inspector
- Estimator
- Production Planner
- Architect
- Masonry Inspector
- Operating Engineer
- Surveyor
- Interior Decorator
- Draftsman, Landscape
- Structural Designer
- Contract and Order Administrator
- Valuation Engineer
- Civil Engineer
- Mason Superintendent
- Drainage Design Coordinator
- Chief of Party
- Public Relations Man
- Contractor
- Purchasing Agent

CLUSTER XV: Construction

DEVELOPMENTAL AREA A: Individual and Environment

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To help students realize the relationship of construction jobs to the individual and his environment.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1. To list ways which at least three different construction jobs affect other workers and the community.	1.1 Have students write construction related definitions of the following vocabulary list. pollution; child labor; monopoly; zoning regulations; building codes; environmental protection agency; scab; planned obsolescence; price fixing fair employment practice, lockout.	1.1 Check local resource file for local, state or federal agencies.
	1.2 Have a safety supervisor or labor relations manager discuss the regulation employee practices.	
	1.3 Arrange for students to visit regulatory agencies and construction sites.	
2. To list and give examples of at least six types of governmental regulations on construction jobs.	2.1 List the following terms on the board and discuss them: strike; safety equipment; union; apprenticeship; social security; mandatory retirement age; moonlighting; closed shop; hard hat; operator's license; professional engineer; registered surveyor; medicare; withholding tax.	2.1 Consult local resource file for social security speaker.
	3.2 Students interview social security representative concerning disability and survivor benefits provided.	

CLUSTER XV: Construction

DEVELOPMENTAL AREA B: World of Work

OVERALL DEVELOPMENTAL OBJECTIVES NO. 1: To learn about the many occupations in construction firms located both within and outside of the community.

PERFORMANCE OBJECTIVE	ACTIVITY	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1. To prepare a one-page summary of three construction occupations.	1.1 Ask role models to describe their occupations in assembly programs or small discussion groups. 1.2 Students present oral and written summaries.	1.1 Consult local resource file for speakers.
2. To list and correctly categorize ten jobs in construction.	2.1 Use the U.S.O.E. subgroups and films showing construction occupations. Have students identify workers within the U.S.O.E. groupings.	2.1 Check with audiovisual department for materials. 2.2 Prepare handouts of U.S.O.E. job cluster flow charts.
3. To prepare a detailed job analysis of five jobs which he selects from the U.S.O.E. subgroup.	3.1 Students will use career guidance kits, encyclopedias, and brochures describing jobs to locate information requested on a job analysis worksheet. 3.2 Discuss the type of information to be included in the report, including — job name duties educational requirements special training approximate salary projected manpower needs	3.1 Provide commercially prepared career kits, encyclopedias, and reference books. 3.2 Obtain brochures and pamphlets from construction firms. 3.3 Provide teacher-prepared handouts requesting specific job information.

CLUSTER XV: Construction

DEVELOPMENTAL AREA C: Education and Training

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: Help students to see the need to plan educational goals based on the requirements for different occupations in construction.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1. To indicate information about the educational and training requirements for five jobs in at least three of the U.S.O.E. subgroups (15 jobs in all)	1.1 Small groups identify education and training requirements for jobs in chosen construction subgroups.	1.1 Provide U.S.O.E. sketch of cluster sub-groups and commercially prepared career kits for reference.
2. To list education and training requirements for four jobs described by a role model.	2.1 Arrange for small group discussion or assembly program featuring role models from educational institutions and apprenticeship programs, to discuss their own training.	2.1 Check local resource file for college, technical institute, apprentice program, and armed forces speaker.
3. To select one educational or training program and report the name and location of the training institute, length and cost of training, and how living expenses can be covered.	3.1 Each student selects a job that interests him and uses all possible resources and personal contacts to determine exact nature and cost of the education and training required.	3.1 Prepare a handout listing the specific information desired.
4. To develop a school program related to their occupational interests.	4.1 Ask guidance counselor to explain high school course offerings.	4.1 Provide a list of high school course offerings.
	4.2 Each student chooses high school courses which will prepare him for his selected job. (The students should fill out two copies, one for his personal use.)	

CLUSTER XV: Construction

DEVELOPMENTAL AREA D: Economics

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To help students realize the economic significance of modern construction occupations on the economic well-being of individual workers.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1. To describe three new careers in construction which have developed between the 1940's and the 1970's which have major economic effect on society.	1.1 Students prepare brief written reports on this topic using library references.	1.1 Check with librarian for available resources.
	1.2 View films and film strips depicting these eras.	1.2 Check with audiovisual department for films.
	1.3 Have small groups of students prepare displays illustrating these time periods.	1.3 Provide cameras and film.
2. To compare the beginning and average salaries for at least three construction careers.	2.1 Students interview employers to determine salary schedules.	2.1 Make initial contact for students.
	2.2 Make comparative chart to compare three different jobs.	

CLUSTER XV: Construction

DEVELOPMENTAL AREA E: Employability and Work Adjustment Skills

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To help students understand the value of personal and inter-personal behavior that will contribute to job attainment and advancement.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able:		
1. To find five want-ads for jobs available in construction, and list employment requirements.	1.1 Have students cut out newspaper help-wanted clippings related to construction and arrange them into the U.S.O.E. subgroups.	1.1 Obtain the classified ad portion of papers for several previous months.
	1.2 Students should prepare a bulletin board using these want-ads.	
2. To list five personality attributes often requested by employers.	2.1 Students compile folders of all help wanted ads which list personality requirements marking these requirements.	2.1 Provide want ads from local newspaper.
	2.2 From this folder the student may compile a list of personality terms in alphabetical order; a composite list may be compiled by the class.	
3. To recognize and define ten words found in help-wanted ads related to the construction industry that indicate adjustment skills needed for employability.	3.1 In groups of four, students participate in a contest. They score points by selecting ads which cannot be correctly understood by the class but are understood by their group.	3.1 Supply a dittoed handout of common terms at close of lesson.
	3.2 Students are assigned vocabulary lists based on selected want ads.	
	3.3 Put ads on overhead transparencies. Each group selects one ad from six choices provided.	

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
4. To list five good and five poor personal behaviors and the effect these have on job performance.	4.1 Given a series of brief stories, students in groups of four may indicate their first, second, and third choices and present a role-playing skit to the rest of the class.	4.1 Provide adequate reference materials.

CLUSTER XV: Construction

DEVELOPMENTAL AREA F: Decision-Making

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: Help students develop skills in decision-making and discover their application to career-choice decisions.

PERFORMANCE OBJECTIVES	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To list at least four factors which might influence his selection of a specific construction job.	1.1 Each student makes three tentative construction-related job selections. With no further discussion, he writes a short report defending his choice of one of these careers.	
	1.2 List factors which might influence career selections, including pay, number of job openings, growth of occupation, indoor vs. outdoor work, and working hours.	
2. To analyze his personal qualities, such as interest, skills, abilities, and attitudes, and to identify three construction careers which most nearly match his personal characteristics.	2.1 Administer OVIS, GATB or other interest and aptitude tests and interpret results to students.	3.1 Contact guidance office for administration of tests.
	2.2 After the personal qualities are determined, have students research careers which match these qualities.	

CLUSTER XV: Construction

DEVELOPMENTAL AREA G: Self

OVERALL DEVELOPMENTAL OBJECTIVE NO. 1: To help students develop a sense of value for their own interests, aptitudes, and abilities in relation to tentative career decisions.

PERFORMANCE OBJECTIVE	ACTIVITIES	PROCEDURES AND/OR RESOURCE MATERIALS
The student should be able: 1. To analyze his interests and abilities and identify three careers in construction which most nearly match these personal qualities.	1.1 Administer interest tests and provide simplified interpretations.	1.1 Check for guidance for OVIS.
	1.2 Students select three construction jobs of special interest and list special aptitudes needed.	1.2 Arrange for career reference materials.
	1.3 Given a selection of simplified aptitude tests, the student may test his aptitudes for the selected jobs.	
2. To identify out-of-school pupil activities related to construction occupations.	2.1 Students will construct a bulletin board about after school activities listing names of part-time jobs and hobbies related to construction.	
3. To list three or more school subjects related to a construction occupation of particular interest to the student.	3.1 The student is asked to list his interests, likes and dislikes for school subjects. This list is compared to the aptitudes required for jobs selected in 1.2.	

APPENDIX

U.S.O.E. JOB CLUSTER FLOW-CHARTS

One of the tasks that readily became apparent, with the advent of Career Education throughout the nation, was a way of organizing the thousands of jobs into an organizational pattern that could be easily understood and administered. The Department of Vocational-Technical Education (DVTE) in the United States Office of Education (USOE) undertook the task, and developed "clusters" on an industry basis. These clusters are included in the following pages (see index page v for exact location of each cluster).

Suggestions for Use

The cluster lists are sometimes called "flow-charts." This is because they show the breakdown of the total cluster into component parts—specific industries, divisions, and/or operations. This total "flow" effect can be helpful to students in understanding the overall magnitude of each job cluster. It can also be helpful in understanding the various "subgroups" of jobs as well as the nature of jobs within the cluster.

After sufficient analysis of the flow-charts as presented, students may wish to identify several sample occupations in each of the subcatagories.

Developed By: USOE/DVTE
Draft
Revised
DATE 4/1/71

Cluster for
AGRI-BUSINESS AND NATURAL RESOURCES

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

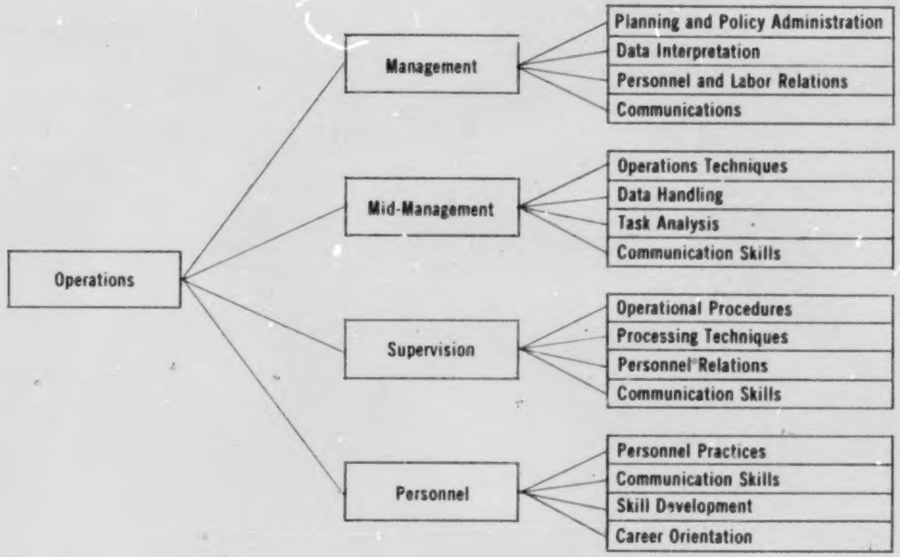
Who Works In These Occupations?

What Is Life Style Of People?

Who Do People Work With?

Where Are These Jobs?

How Do They Accomplish Their Jobs?


Operations
Management
Planning and Policy Administration
Data Interpretation
Personnel and Labor Relations
Communications
Mid-Management
Operations Techniques
Data Handling
Task Analysis
Communication Skills
Supervision
Operational Procedures
Processing Techniques
Personnel Relations
Communication Skills
Personnel
Personnel Practices
Communication Skills
Skill Development
Career Orientation

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Cluster for
AGRI-BUSINESS AND NATURAL RESOURCES

Developed By: USOE/DVTE
Draft
Revised
DATE 4/1/71

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

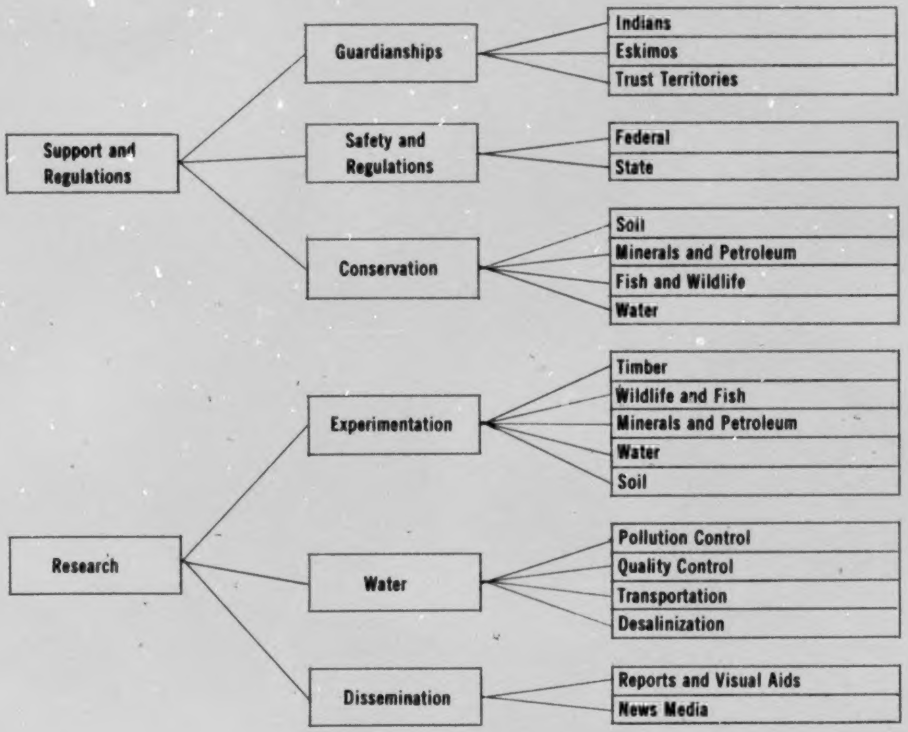
Who Works In These Occupations?

What Is Life Style Of People?

Who Do People Work With?

Where Are These Jobs?

How Do They Accomplish Their Jobs?


Support and Regulations
Guardianships
Indians
Eskimos
Trust Territories
Safety and Regulations
Federal
State
Conservation
Soil
Minerals and Petroleum
Fish and Wildlife
Water
Research
Experimentation
Timber
Wildlife and Fish
Minerals and Petroleum
Water
Soil
Water
Pollution Control
Quality Control
Transportation
Desalinization
Dissemination
Reports and Visual Aids
News Media

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Developed By: USOE/DVTE
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DATE 4/1/71

Cluster for
AGRI-BUSINESS AND NATURAL RESOURCES

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

Who Works In These Occupations?

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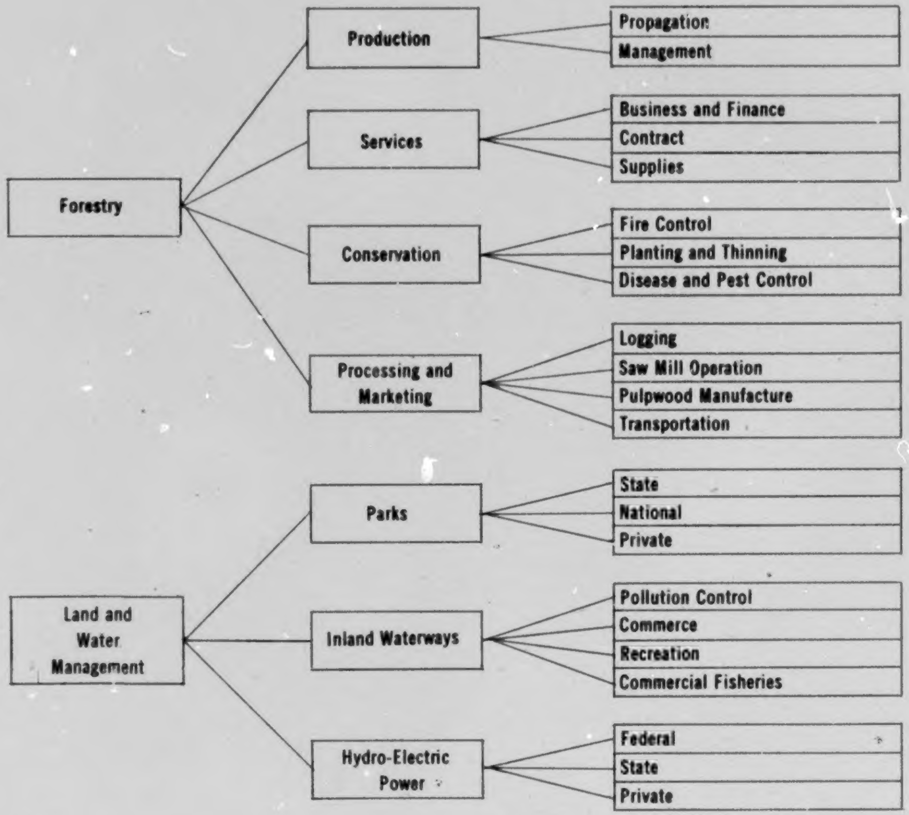
Who Do People Work With?

Where Are These Jobs?

How Do They Accomplish Their Jobs?


Forestry
Production
Propagation
Management
Services
Business and Finance
Contract
Supplies
Conservation
Fire Control
Planting and Thinning
Disease and Pest Control
Processing and Marketing
Logging
Saw Mill Operation
Pulpwood Manufacture
Transportation
Land and Water Management
Parks
State
National
Private
Inland Waterways
Pollution Control
Commerce
Recreation
Commercial Fisheries
Hydro-Electric Power
Federal
State
Private

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

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Cluster for
AGRI-BUSINESS AND NATURAL RESOURCES

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound
What Are The Occupations?

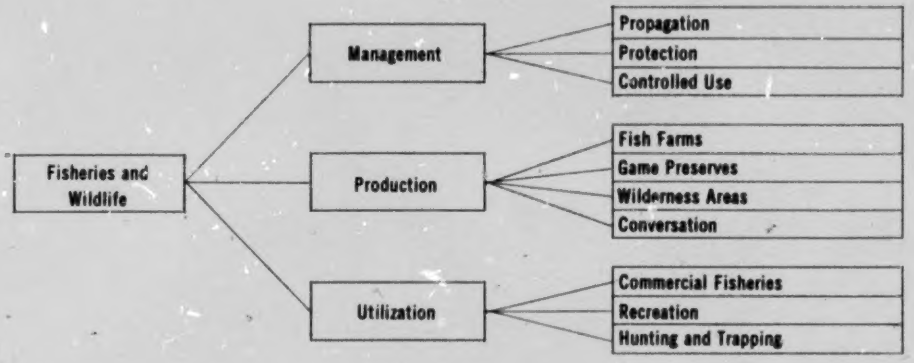
Who Works In These Occupations?

What Is Life Style Of People?

Who Do People Work With?

Where Are These Jobs?

How Do They Accomplish Their Jobs?


Fisheries and Wildlife
Management
Production
Utilization
Propagation
Protection
Controlled Use
Fish Farms
Game Preserves
Wilderness Areas
Conversation
Commercial Fisheries
Recreation
Hunting and Trapping

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

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Cluster for
AGRI-BUSINESS AND NATURAL RESOURCES

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

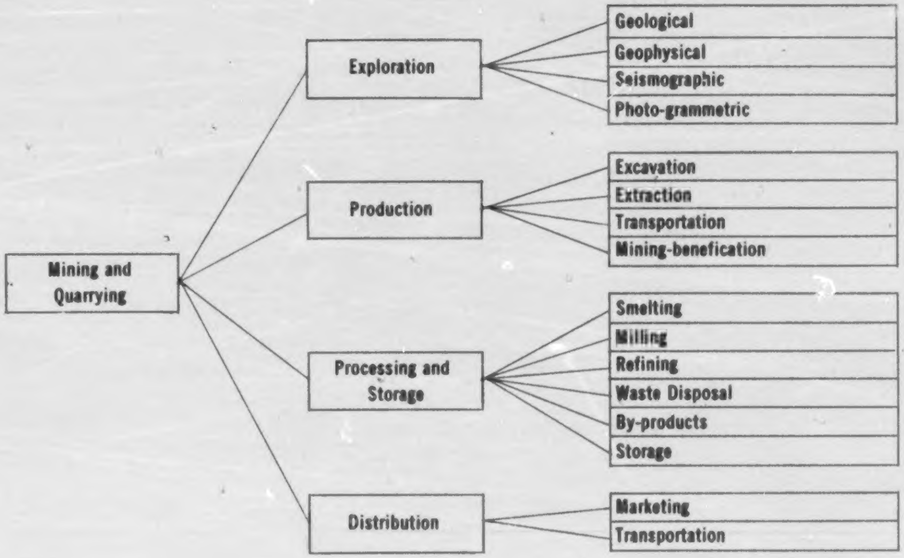
Who Works In These Occupations?

What Is Life Style Of People?

Who Do People Work With?

Where Are These Jobs?

How Do They Accomplish Their Jobs?


Mining and Quarrying
Exploration
Geological
Geophysical
Seismographic
Photo-grammetric
Production
Excavation
Extraction
Transportation
Mining-benefication
Processing and Storage
Smelting
Milling
Refining
Waste Disposal
By-products
Storage
Distribution
Marketing
Transportation

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

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Cluster for
AGRI-BUSINESS AND NATURAL RESOURCES

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

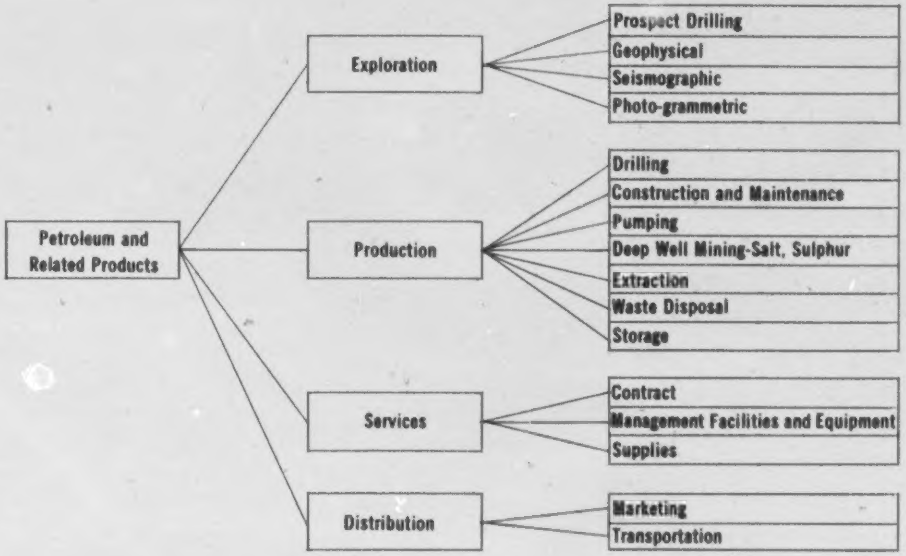
Who Works In These Occupations?

What Is Life Style Of People?

Who Do People Work With?

Where Are These Jobs?

How Do They Accomplish Their Jobs?


Petroleum and Related Products
Exploration
Prospect Drilling
Geophysical
Seismographic
Photo-grammetric
Production
Drilling
Construction and Maintenance
Pumping
Deep Well Mining-Salt, Sulphur
Extraction
Waste Disposal
Storage
Services
Contract
Management Facilities and Equipment
Supplies
Distribution
Marketing
Transportation

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Cluster for
AGRI-BUSINESS AND NATURAL RESOURCES

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Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

Who Works In These Occupations?

What Is Life Style Of People?

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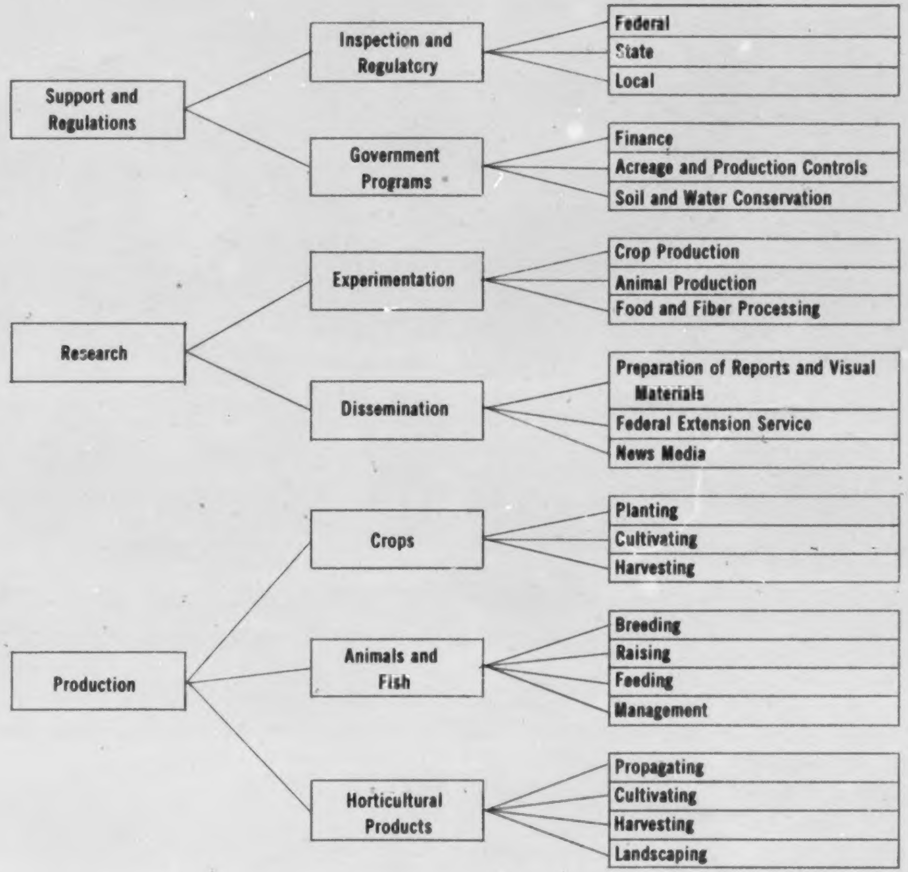
Where Are These Jobs?

How Do They Accomplish Their Jobs?


Support and Regulations
Inspection and Regulatory
Federal
State
Local
Government Programs
Finance
Acreage and Production Controls
Soil and Water Conservation
Research
Experimentation
Crop Production
Animal Production
Food and Fiber Processing
Dissemination
Preparation of Reports and Visual Materials
Federal Extension Service
News Media
Production
Crops
Planting
Cultivating
Harvesting
Animals and Fish
Breeding
Raising
Feeding
Management
Horticultural Products
Propagating
Cultivating
Harvesting
Landscaping

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Cluster for
AGRI-BUSINESS AND NATURAL RESOURCES

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1-2-3-4-5-6	7-8-9	10-11-12	

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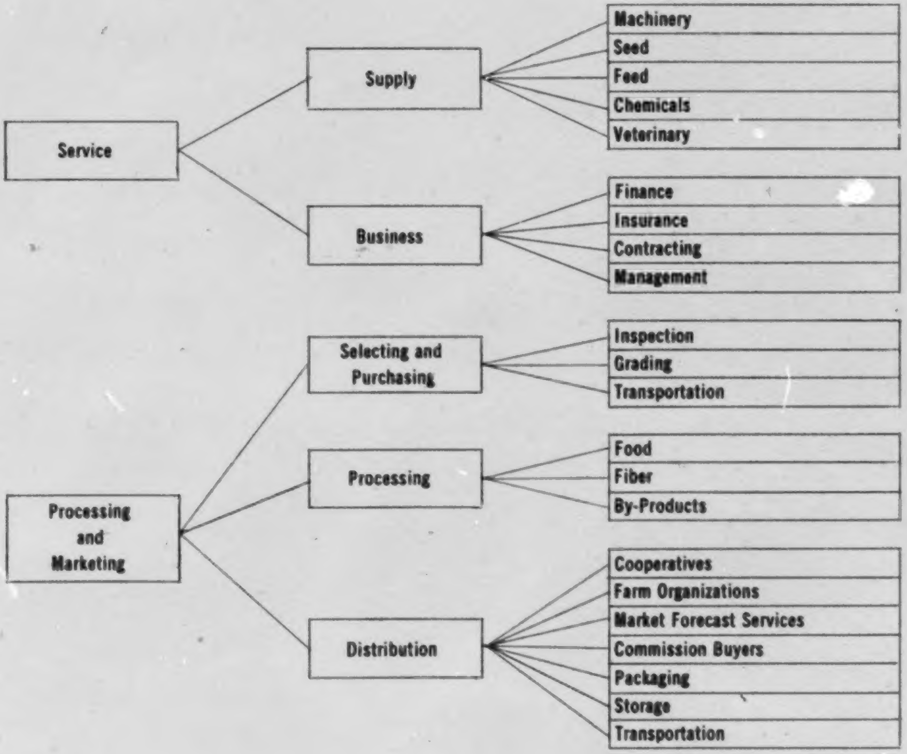
Service
Supply
Machinery
Seed
Feed
Chemicals
Veterinary
Business
Finance
Insurance
Contracting
Management
Processing and Marketing
Selecting and Purchasing
Inspection
Grading
Transportation
Processing
Food
Fiber
By-Products
Distribution
Cooperatives
Farm Organizations
Market Forecast Services
Commission Buyers
Packaging
Storage
Transportation

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Cluster for
ENVIRONMENT

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Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

Who Works In These Occupations?

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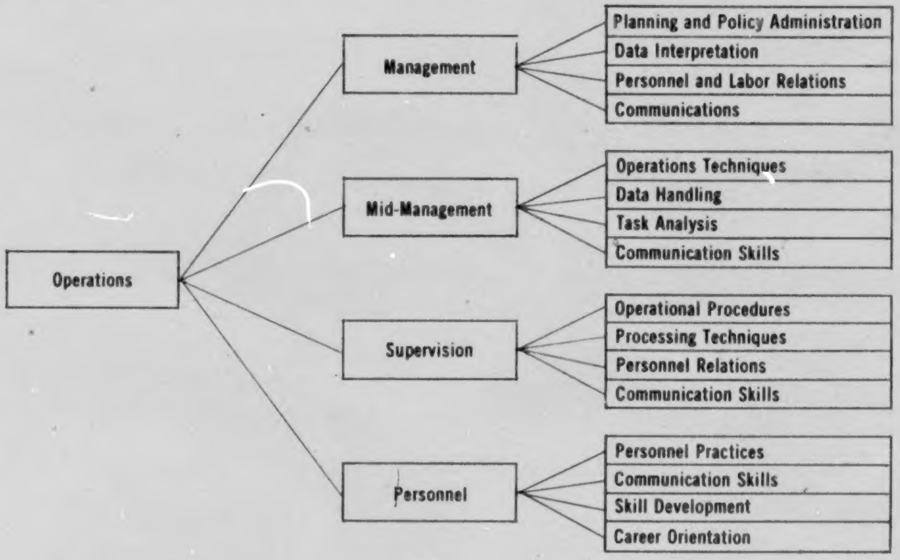
Where Are These Jobs?

How Do They Accomplish Their Jobs?


Operations
Management
Planning and Policy Administration
Data Interpretation
Personnel and Labor Relations
Communications
Mid-Management
Operations Techniques
Data Handling
Task Analysis
Communication Skills
Supervision
Operational Procedures
Processing Techniques
Personnel Relations
Communication Skills
Personnel
Personnel Practices
Communication Skills
Skill Development
Career Orientation

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

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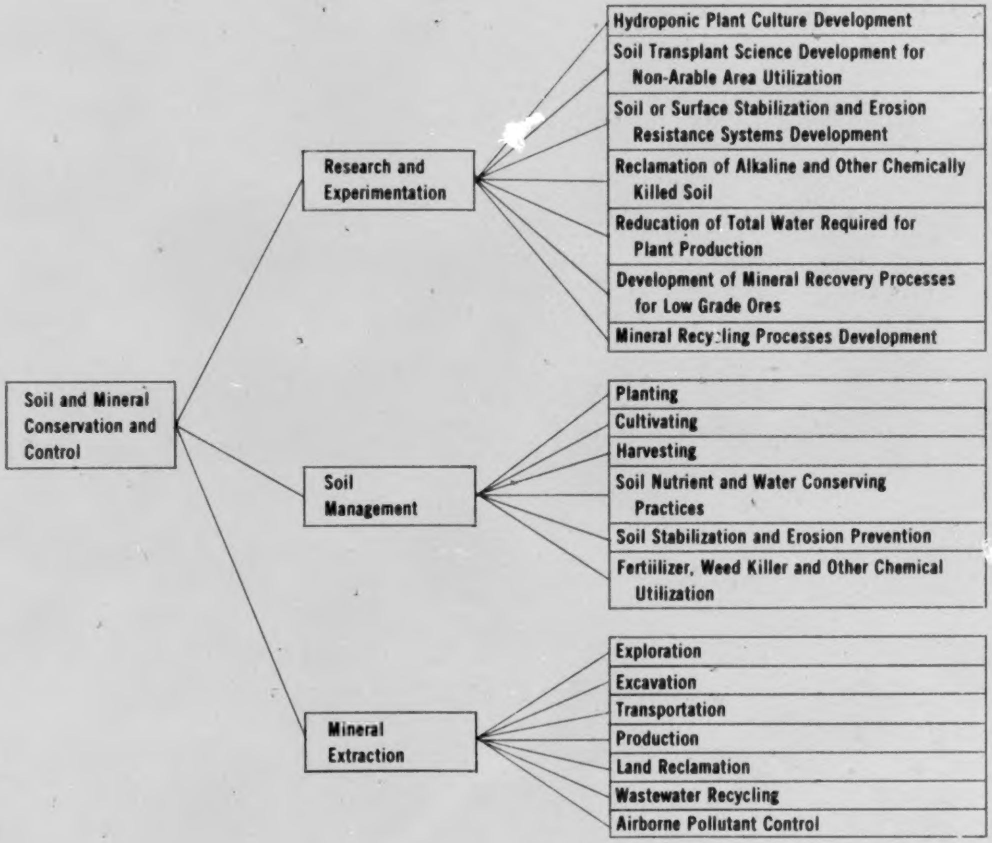
Cluster for
ENVIRONMENT

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

- Sights & Sound What Are The Occupations?
- Who Works In These Occupations?
- What Is Life Style Of People?
- Who Do People Work With?
- Where Are These Jobs?
- How Do They Accomplish Their Jobs?



- Soil and Mineral Conservation and Control
  - Research and Experimentation
    - Hydroponic Plant Culture Development
    - Soil Transplant Science Development for Non-Arable Area Utilization
    - Soil or Surface Stabilization and Erosion Resistance Systems Development
    - Reclamation of Alkaline and Other Chemically Killed Soil
    - Reducation of Total Water Required for Plant Production
    - Development of Mineral Recovery Processes for Low Grade Ores
    - Mineral Recycling Processes Development
  - Soil Management
    - Planting
    - Cultivating
    - Harvesting
    - Soil Nutrient and Water Conserving Practices
    - Soil Stabilization and Erosion Prevention
    - Fertiilizer, Weed Killer and Other Chemical Utilization
  - Mineral Extraction
    - Exploration
    - Excavation
    - Transportation
    - Production
    - Land Reclamation
    - Wastewater Recycling
    - Airborne Pollutant Control

- Job Placement
- Apprenticeship and Adult Education
- Post-Secondary Occupational Skill Training
- Advanced Education (4-Year College Or More)

Cluster for
ENVIRONMENT

Developed By: USOE/DVTE
Draft
Revised
DATE 4/1/71

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

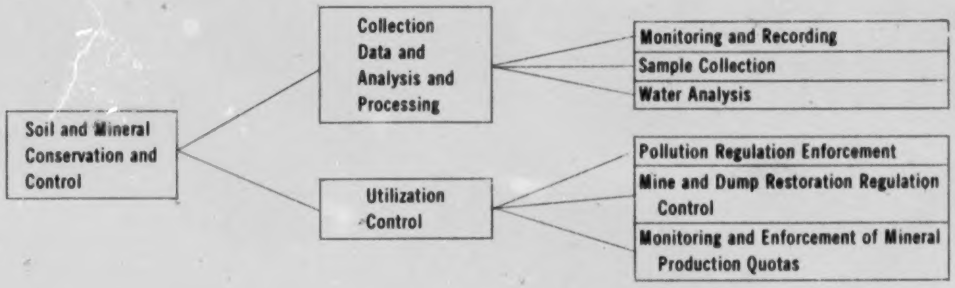
Who Works In These Occupations?

What Is Life Style Of People?

Who Do People Work With?

Where Are These Jobs?

How Do They Accomplish Their Jobs?


Soil and Mineral Conservation and Control
Collection Data and Analysis and Processing
Utilization Control
Monitoring and Recording
Sample Collection
Water Analysis
Pollution Regulation Enforcement
Mine and Dump Restoration Regulation Control
Monitoring and Enforcement of Mineral Production Quotas

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Cluster for
ENVIRONMENT

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Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

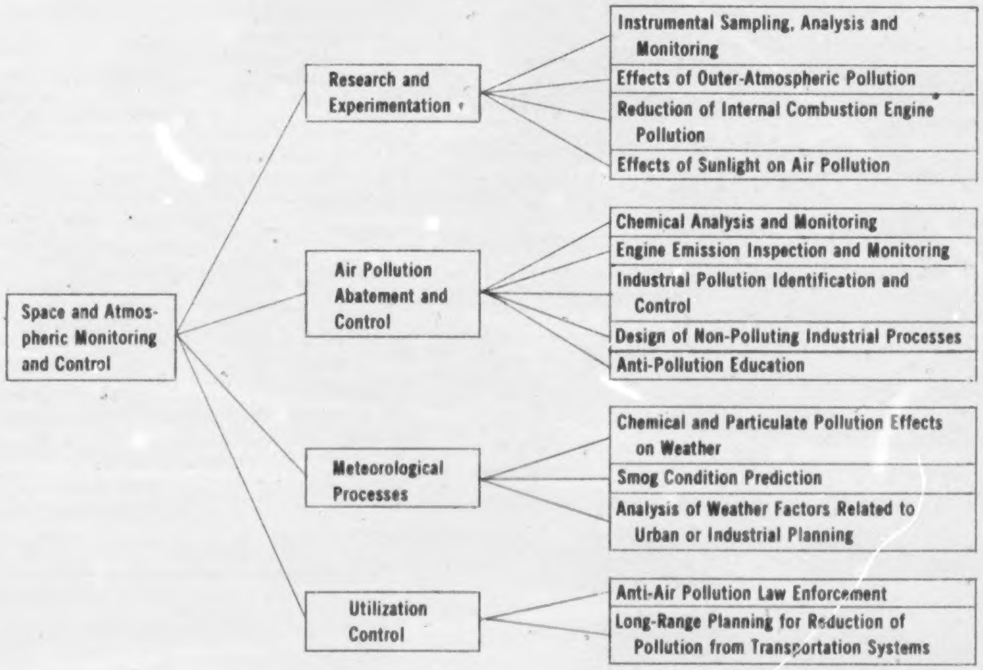
Who Works In These Occupations?

What Is Life Style Of People?

Who Do People Work With?

Where Are These Jobs?

How Do They Accomplish Their Jobs?



Space and Atmospheric Monitoring and Control
Research and Experimentation
Instrumental Sampling, Analysis and Monitoring
Effects of Outer-Atmospheric Pollution
Reduction of Internal Combustion Engine Pollution
Effects of Sunlight on Air Pollution
Air Pollution Abatement and Control
Chemical Analysis and Monitoring
Engine Emission Inspection and Monitoring
Industrial Pollution Identification and Control
Design of Non-Polluting Industrial Processes
Anti-Pollution Education
Meteorological Processes
Chemical and Particulate Pollution Effects on Weather
Smog Condition Prediction
Analysis of Weather Factors Related to Urban or Industrial Planning
Utilization Control
Anti-Air Pollution Law Enforcement
Long-Range Planning for Reduction of Pollution from Transportation Systems

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Cluster for
ENVIRONMENT

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Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

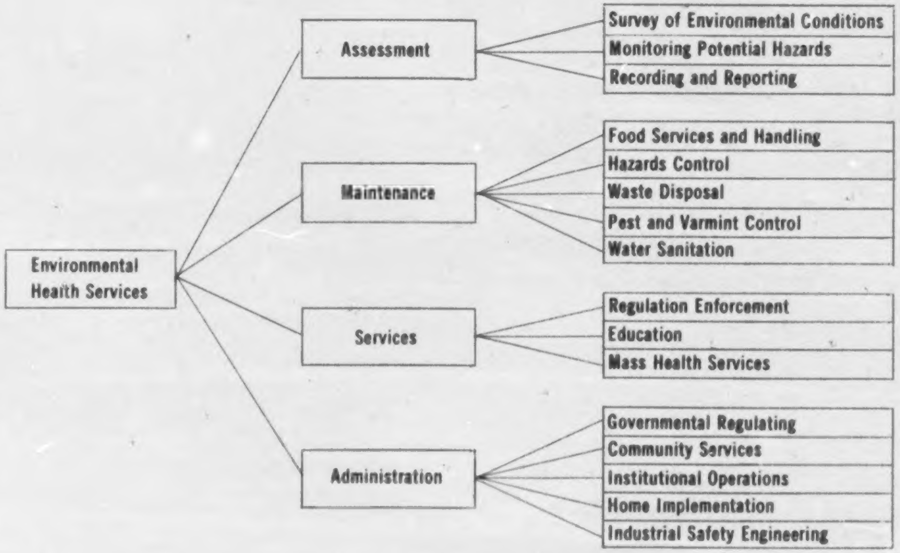
Who Works In These Occupations?

What Is Life Style Of People?

Who Do People Work With?

Where Are These Jobs?

How Do They Accomplish Their Jobs?


Environmental Health Services
Assessment
Survey of Environmental Conditions
Monitoring Potential Hazards
Recording and Reporting
Maintenance
Food Services and Handling
Hazards Control
Waste Disposal
Pest and Varmint Control
Water Sanitation
Services
Regulation Enforcement
Education
Mass Health Services
Administration
Governmental Regulating
Community Services
Institutional Operations
Home Implementation
Industrial Safety Engineering

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Cluster for
ENVIRONMENT

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Draft
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DATE 4/1/71

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

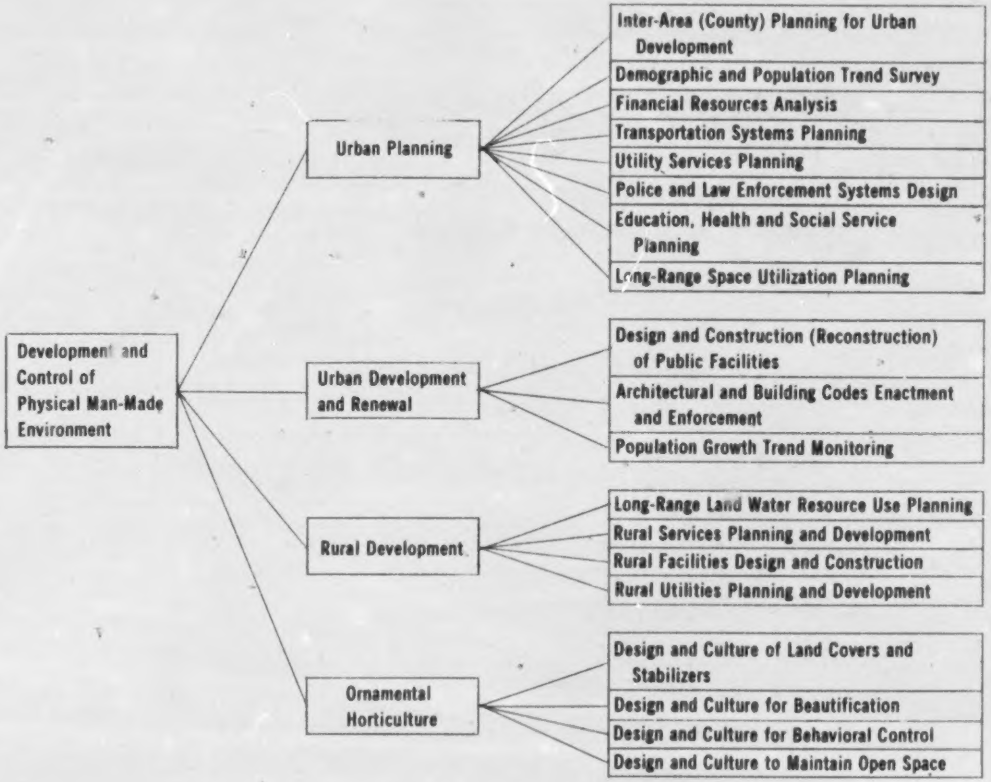
Who Works In These Occupations?

What Is Life Style Of People?

Who Do People Work With?

Where Are These Jobs?

How Do They Accomplish Their Jobs?


Development and Control of Physical Man-Made Environment
Urban Planning
Inter-Area (County) Planning for Urban Development
Demographic and Population Trend Survey
Financial Resources Analysis
Transportation Systems Planning
Utility Services Planning
Police and Law Enforcement Systems Design
Education, Health and Social Service Planning
Long-Range Space Utilization Planning
Urban Development and Renewal
Design and Construction (Reconstruction) of Public Facilities
Architectural and Building Codes Enactment and Enforcement
Population Growth Trend Monitoring
Rural Development
Long-Range Land Water Resource Use Planning
Rural Services Planning and Development
Rural Facilities Design and Construction
Rural Utilities Planning and Development
Ornamental Horticulture
Design and Culture of Land Covers and Stabilizers
Design and Culture for Beautification
Design and Culture for Behavioral Control
Design and Culture to Maintain Open Space

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Cluster for
ENVIRONMENT

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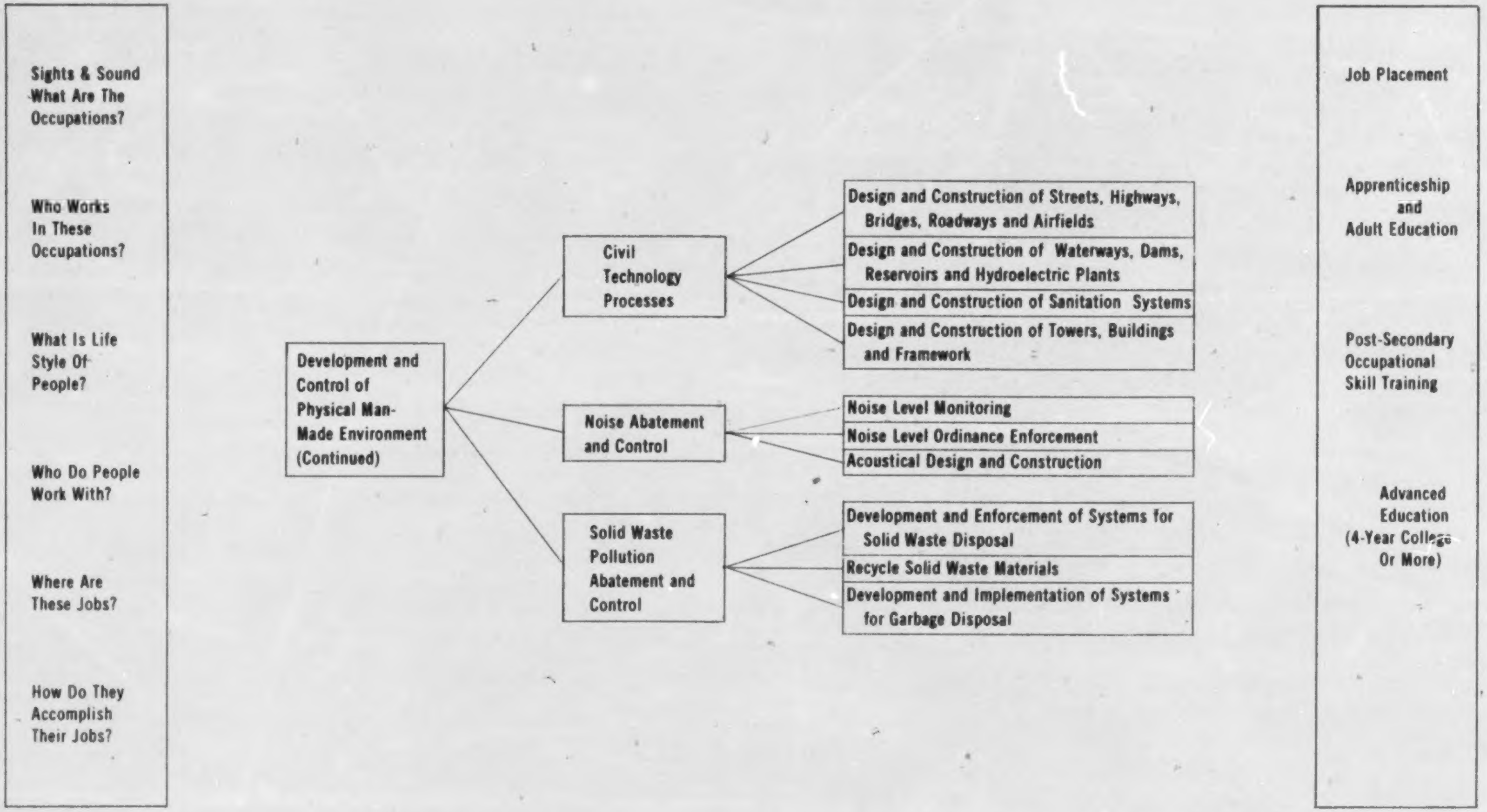
Draft
Revised
DATE 4/1/71

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	



Sights & Sound What Are The Occupations?
Who Works In These Occupations?
What Is Life Style Of People?
Who Do People Work With?
Where Are These Jobs?
How Do They Accomplish Their Jobs?
Development and Control of Physical Man-Made Environment (Continued)
Civil Technology Processes
Design and Construction of Streets, Highways, Bridges, Roadways and Airfields
Design and Construction of Waterways, Dams, Reservoirs and Hydroelectric Plants
Design and Construction of Sanitation Systems
Design and Construction of Towers, Buildings and Framework
Noise Abatement and Control
Noise Level Monitoring
Noise Level Ordinance Enforcement
Acoustical Design and Construction
Solid Waste Pollution Abatement and Control
Development and Enforcement of Systems for Solid Waste Disposal
Recycle Solid Waste Materials
Development and Implementation of Systems for Garbage Disposal
Job Placement
Apprenticeship and Adult Education
Post-Secondary Occupational Skill Training
Advanced Education (4-Year College Or More)

Cluster for
ENVIRONMENT

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Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

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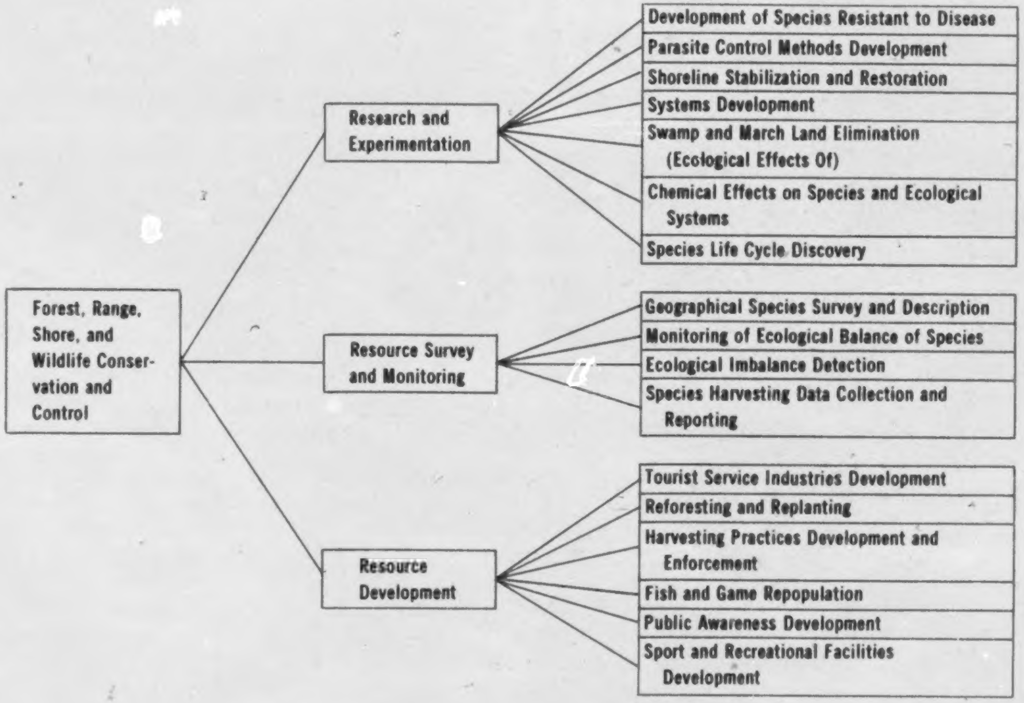
Where Are These Jobs?

How Do They Accomplish Their Jobs?



Forest, Range, Shore, and Wildlife Conservation and Control
Research and Experimentation
Development of Species Resistant to Disease
Parasite Control Methods Development
Shoreline Stabilization and Restoration
Systems Development
Swamp and March Land Elimination (Ecological Effects Of)
Chemical Effects on Species and Ecological Systems
Species Life Cycle Discovery
Resource Survey and Monitoring
Geographical Species Survey and Description
Monitoring of Ecological Balance of Species
Ecological Imbalance Detection
Species Harvesting Data Collection and Reporting
Resource Development
Tourist Service Industries Development
Reforesting and Replanting
Harvesting Practices Development and Enforcement
Fish and Game Repopulation
Public Awareness Development
Sport and Recreational Facilities Development

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Cluster for
ENVIRONMENT

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Draft
Revised
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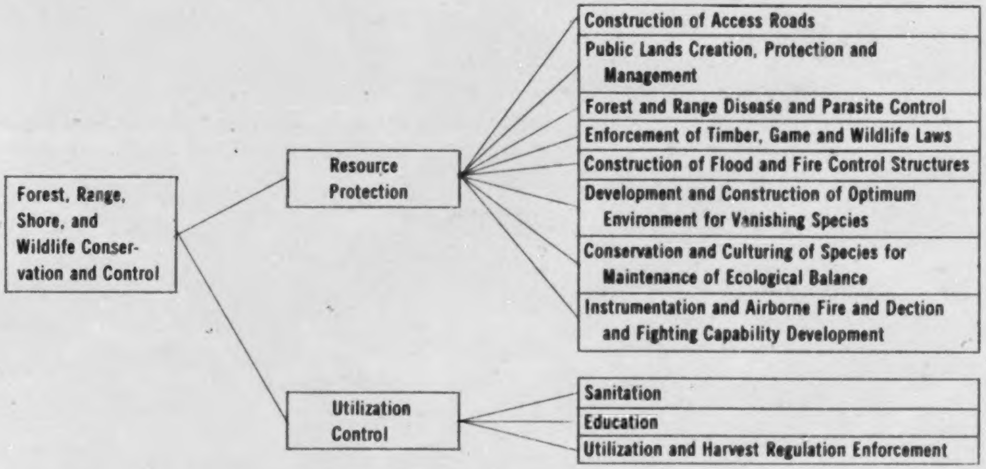
1-2-3-4-5-6	7-8-9	10-11-12	

- Sights & Sound What Are The Occupations?
- Who Works In These Occupations?
- What Is Life Style Of People?
- Who Do People Work With?
- Where Are These Jobs?
- How Do They Accomplish Their Jobs?



Forest, Range, Shore, and Wildlife Conservation and Control

Resource Protection

- Construction of Access Roads
- Public Lands Creation, Protection and Management
- Forest and Range Disease and Parasite Control
- Enforcement of Timber, Game and Wildlife Laws
- Construction of Flood and Fire Control Structures
- Development and Construction of Optimum Environment for Vanishing Species
- Conservation and Culturing of Species for Maintenance of Ecological Balance
- Instrumentation and Airborne Fire and Dection and Fighting Capability Development

Utilization Control

- Sanitation
- Education
- Utilization and Harvest Regulation Enforcement

Options after Grade 12:

- Job Placement
- Apprenticeship and Adult Education
- Post-Secondary Occupational Skill Training
- Advanced Education (4-Year College Or More)

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Cluster for
ENVIRONMENT

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

- Sights & Sound What Are The Occupations?
- Who Works In These Occupations?
- What Is Life Style Of People?
- Who Do People Work With?
- Where Are These Jobs?
- How Do They Accomplish Their Jobs?

- Water Resource Development, Conservation and Control
  - Research and Experimentation
    - Instrumental Meteorological Data Collection
    - Meteorological and Watershed Survey and Monitoring
    - Water Table—Land Cover Relationships Survey and Analysis
    - Water Disalinization
    - Underground Waterflow Systems Discovery and Charting
    - Water Purification Systems Development
  - Water Pollution Abatement and Control
    - Treatment Plant Construction and Operation
    - Watershed and Reservoir Systems Development and Operation
    - Chemical Analysis and Monitoring
    - Chemical and Thermal Pollution Prevention
    - Bacteriological Analysis and Monitoring
    - Industrial Pollution Detection and Monitoring
    - Anti-Pollution Education
  - Civil Technology Processes
    - Distribution and Collection Systems Development
    - Water and Wastewater Treatment Systems Development
    - Watershed Survey and Mapping
    - Drainage Systems and Development
    - Irrigation, Reservoir, Canals and Waterways Development

- Job Placement
- Apprenticeship and Adult Education
- Post-Secondary Occupational Skill Training
- Advanced Education (4-Year College Or More)

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Cluster for
ENVIRONMENT

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

Who Works In These Occupations?

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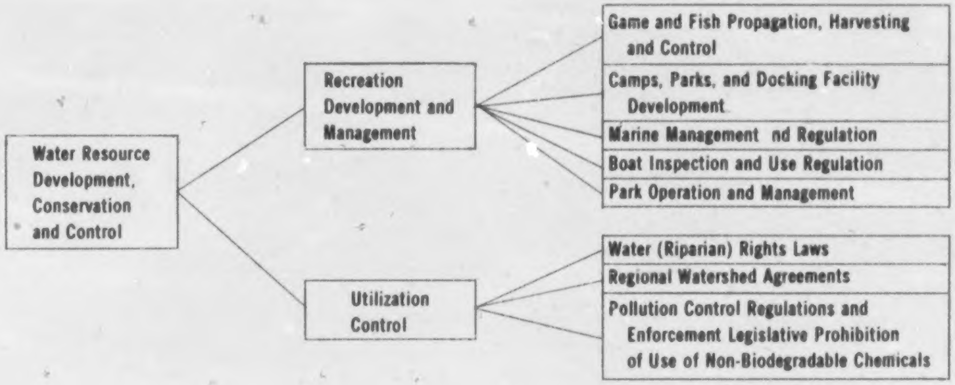
Where Are These Jobs?

How Do They Accomplish Their Jobs?


Water Resource Development, Conservation and Control
Recreation Development and Management
Utilization Control
Game and Fish Propagation, Harvesting and Control
Camps, Parks, and Docking Facility Development
Marine Management and Regulation
Boat Inspection and Use Regulation
Park Operation and Management
Water (Riparian) Rights Laws
Regional Watershed Agreements
Pollution Control Regulations and Enforcement Legislative Prohibition of Use of Non-Biodegradable Chemicals

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Cluster for
HEALTH OCCUPATIONS

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Revised
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1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

Who Works In These Occupations?

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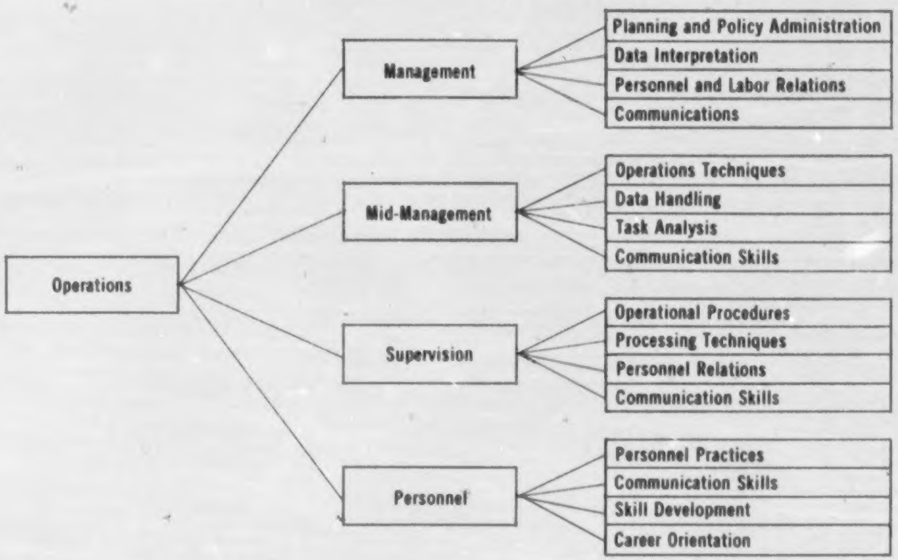
Who Do People Work With?

Where Are These Jobs?

How Do They Accomplish Their Jobs?


Operations
Management
Planning and Policy Administration
Data Interpretation
Personnel and Labor Relations
Communications
Mid-Management
Operations Techniques
Data Handling
Task Analysis
Communication Skills
Supervision
Operational Procedures
Processing Techniques
Personnel Relations
Communication Skills
Personnel
Personnel Practices
Communication Skills
Skill Development
Career Orientation

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Cluster for
HEALTH OCCUPATIONS

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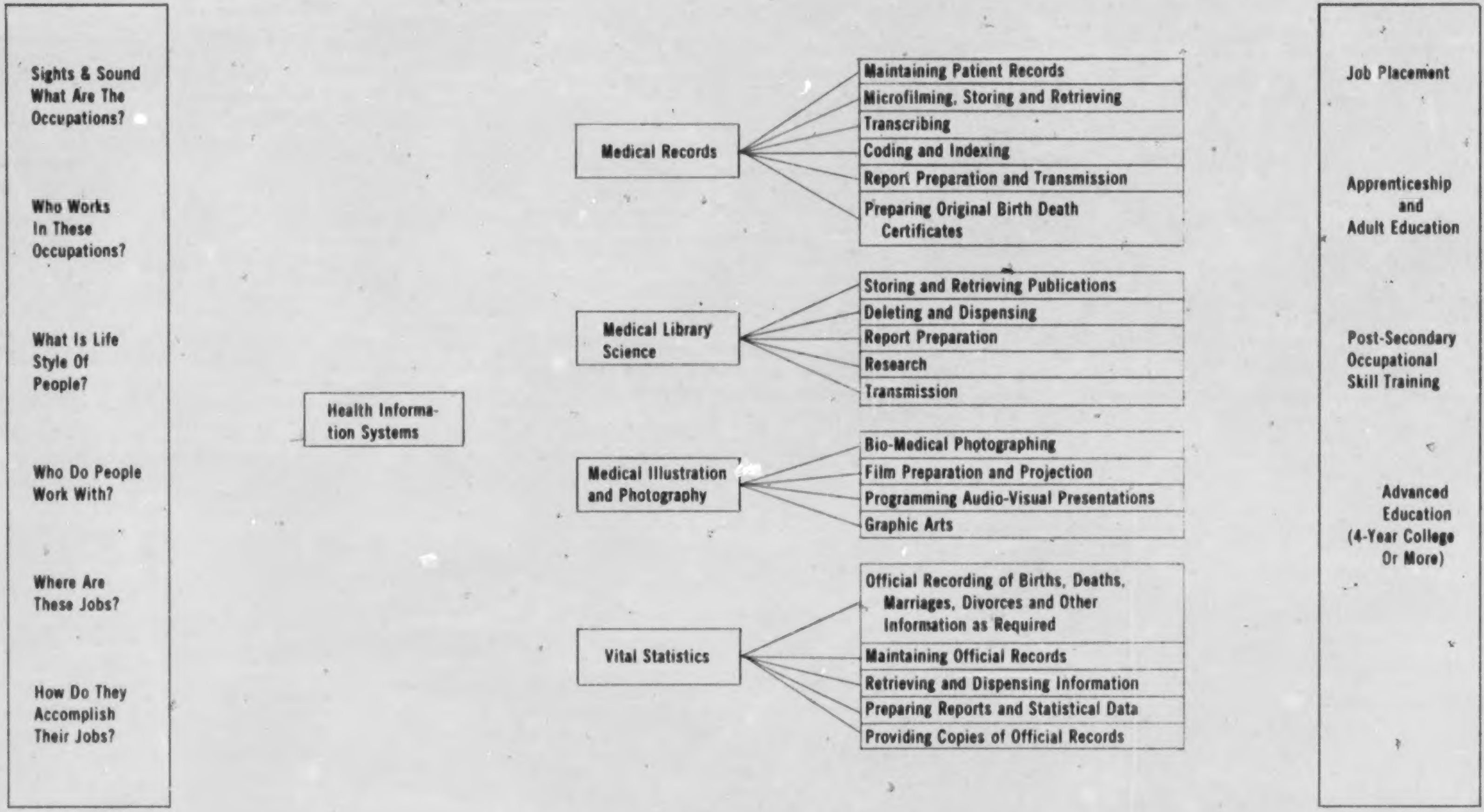
1-2-3-4-5-6	7-8-9	10-11-12	



Sights & Sound
What Are The
Occupations?

Who Works
In These
Occupations?

What Is Life
Style Of
People?

Who Do People
Work With?

Where Are
These Jobs?

How Do They
Accomplish
Their Jobs?

Health Information Systems

Medical Records
- Maintaining Patient Records
- Microfilming, Storing and Retrieving
- Transcribing
- Coding and Indexing
- Report Preparation and Transmission
- Preparing Original Birth Death Certificates

Medical Library Science
- Storing and Retrieving Publications
- Deleting and Dispensing
- Report Preparation
- Research
- Transmission

Medical Illustration and Photography
- Bio-Medical Photographing
- Film Preparation and Projection
- Programming Audio-Visual Presentations
- Graphic Arts

Vital Statistics
- Official Recording of Births, Deaths, Marriages, Divorces and Other Information as Required
- Maintaining Official Records
- Retrieving and Dispensing Information
- Preparing Reports and Statistical Data
- Providing Copies of Official Records

Job Placement

Apprenticeship
and
Adult Education

Post-Secondary
Occupational
Skill Training

Advanced
Education
(4-Year College
Or More)

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Cluster for
HEALTH OCCUPATIONS

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound
What Are The
Occupations?

Who Works
In These
Occupations?

What Is Life
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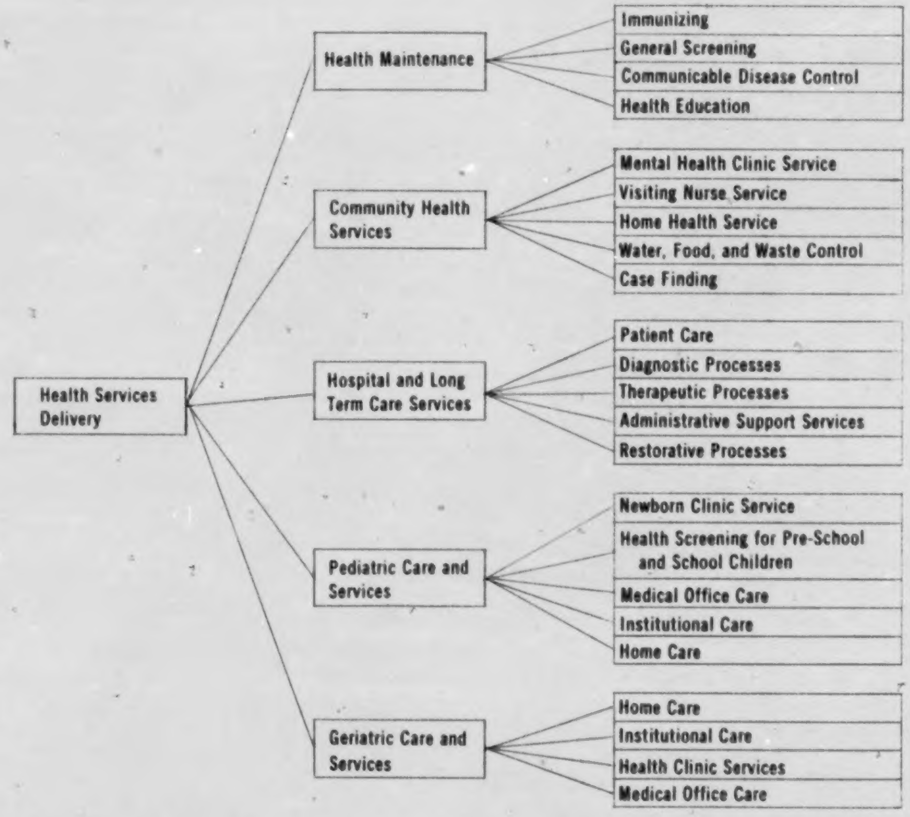
People?

Who Do People
Work With?

Where Are
These Jobs?

How Do They
Accomplish
Their Jobs?



Health Services Delivery
Health Maintenance
Immunizing
General Screening
Communicable Disease Control
Health Education
Community Health Services
Mental Health Clinic Service
Visiting Nurse Service
Home Health Service
Water, Food, and Waste Control
Case Finding
Hospital and Long Term Care Services
Patient Care
Diagnostic Processes
Therapeutic Processes
Administrative Support Services
Restorative Processes
Pediatric Care and Services
Newborn Clinic Service
Health Screening for Pre-School and School Children
Medical Office Care
Institutional Care
Home Care
Geriatric Care and Services
Home Care
Institutional Care
Health Clinic Services
Medical Office Care

Job Placement

Apprenticeship
and
Adult Education

Post-Secondary
Occupational
Skill Training

Advanced
Education
(4-Year College
Or More)

Cluster for
HEALTH OCCUPATIONS

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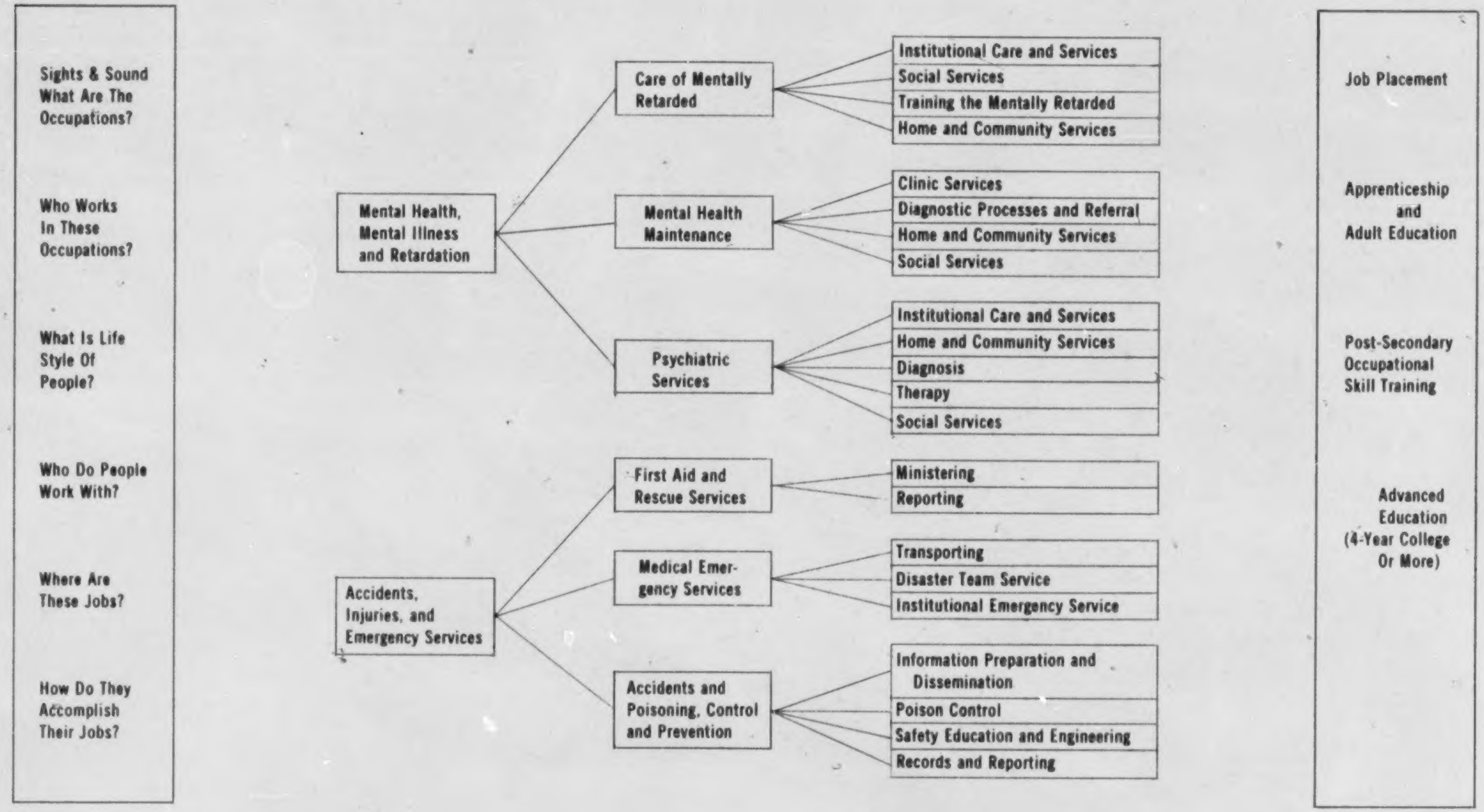
1-2-3-4-5-6	7-8-9	10-11-12	



Sights & Sound What Are The Occupations?
Who Works In These Occupations?
What Is Life Style Of People?
Who Do People Work With?
Where Are These Jobs?
How Do They Accomplish Their Jobs?
Mental Health, Mental Illness and Retardation
Accidents, Injuries, and Emergency Services
Care of Mentally Retarded
Mental Health Maintenance
Psychiatric Services
First Aid and Rescue Services
Medical Emergency Services
Accidents and Poisoning, Control and Prevention
Institutional Care and Services
Social Services
Training the Mentally Retarded
Home and Community Services
Clinic Services
Diagnostic Processes and Referral
Home and Community Services
Social Services
Institutional Care and Services
Home and Community Services
Diagnosis
Therapy
Social Services
Ministering
Reporting
Transporting
Disaster Team Service
Institutional Emergency Service
Information Preparation and Dissemination
Poison Control
Safety Education and Engineering
Records and Reporting
Job Placement
Apprenticeship and Adult Education
Post-Secondary Occupational Skill Training
Advanced Education (4-Year College Or More)

Cluster for
HEALTH OCCUPATIONS

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DATE 4/1/71

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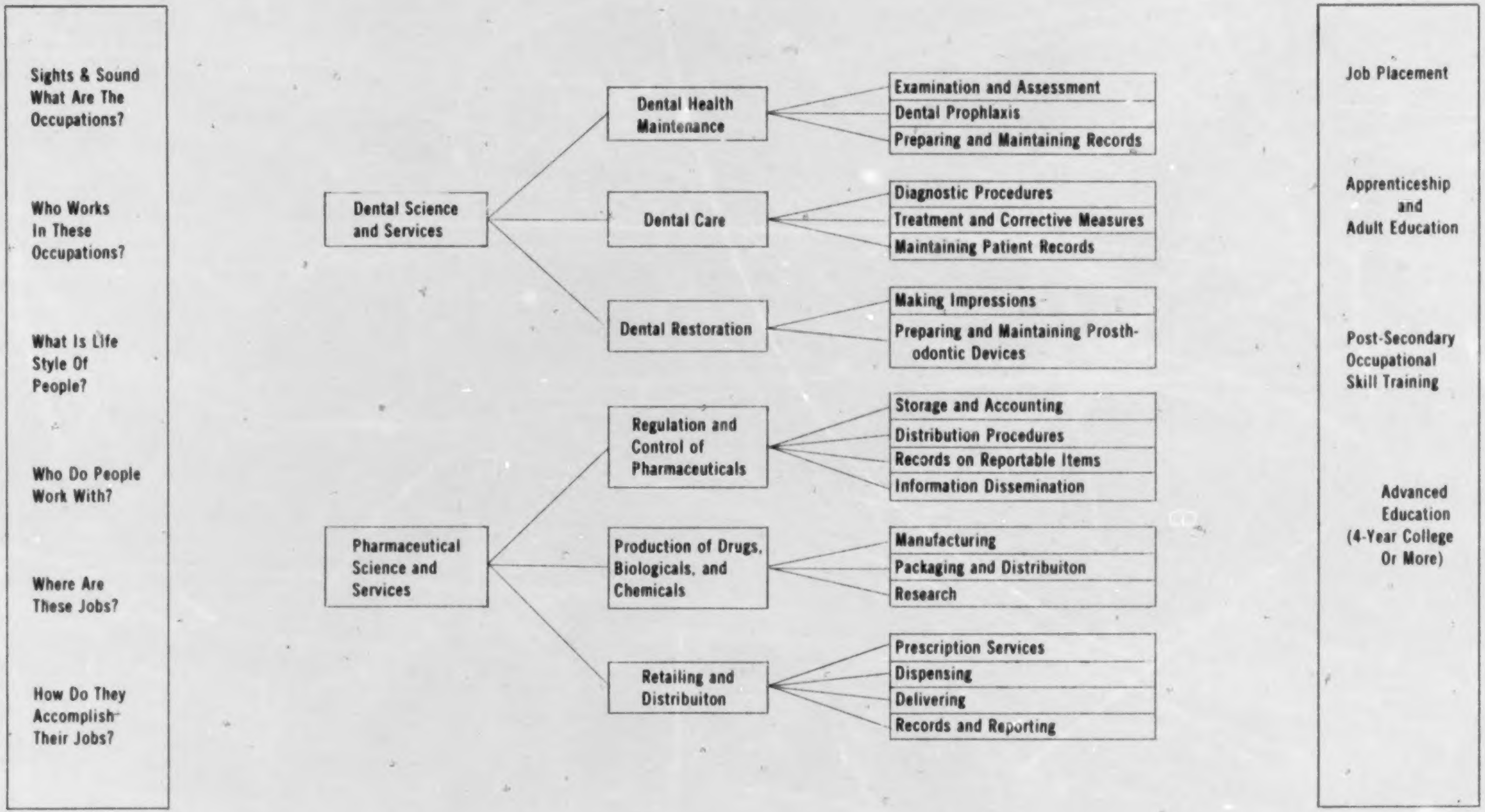
1-2-3-4-5-6	7-8-9	10-11-12	



Sights & Sound What Are The Occupations?
Who Works In These Occupations?
What Is Life Style Of People?
Who Do People Work With?
Where Are These Jobs?
How Do They Accomplish Their Jobs?
Dental Science and Services
Dental Health Maintenance
Examination and Assessment
Dental Prophlaxis
Preparing and Maintaining Records
Dental Care
Diagnostic Procedures
Treatment and Corrective Measures
Maintaining Patient Records
Dental Restoration
Making Impressions
Preparing and Maintaining Prosthodontic Devices
Pharmaceutical Science and Services
Regulation and Control of Pharmaceuticals
Storage and Accounting
Distribution Procedures
Records on Reportable Items
Information Dissemination
Production of Drugs, Biologicals, and Chemicals
Manufacturing
Packaging and Distribuiton
Research
Retailing and Distribuiton
Prescription Services
Dispensing
Delivering
Records and Reporting
Job Placement
Apprenticeship and Adult Education
Post-Secondary Occupational Skill Training
Advanced Education (4-Year College Or More)

Cluster for
HEALTH OCCUPATIONS

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Draft
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1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

Who Works In These Occupations?

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Where Are These Jobs?

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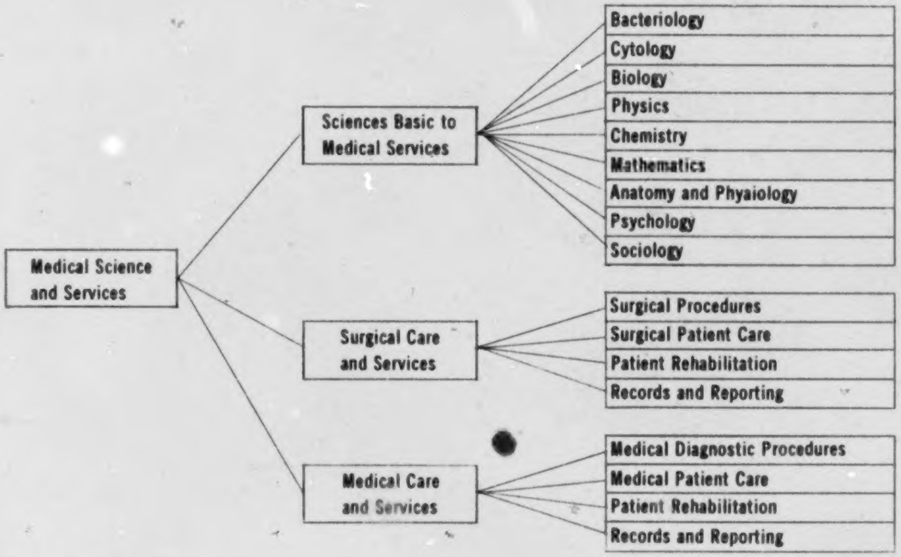
Medical Science and Services
Sciences Basic to Medical Services
Bacteriology
Cytology
Biology
Physics
Chemistry
Mathematics
Anatomy and Phyaiology
Psychology
Sociology
Surgical Care and Services
Surgical Procedures
Surgical Patient Care
Patient Rehabilitation
Records and Reporting
Medical Care and Services
Medical Diagnostic Procedures
Medical Patient Care
Patient Rehabilitation
Records and Reporting

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Cluster for
HEALTH OCCUPATIONS

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Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

Who Works In These Occupations?

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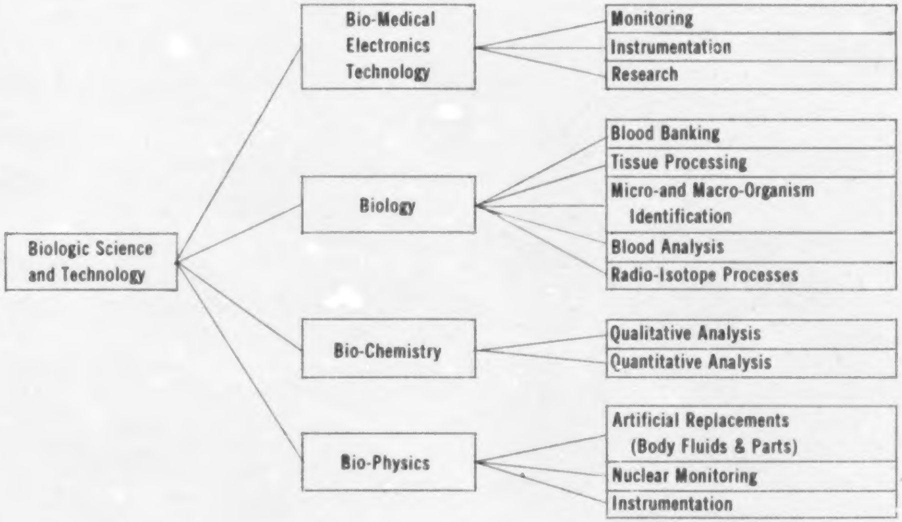
Biologic Science and Technology
Bio-Medical Electronics Technology
Monitoring
Instrumentation
Research
Biology
Blood Banking
Tissue Processing
Micro-and Macro-Organism Identification
Blood Analysis
Radio-Isotope Processes
Bio-Chemistry
Qualitative Analysis
Quantitative Analysis
Bio-Physics
Artificial Replacements (Body Fluids & Parts)
Nuclear Monitoring
Instrumentation

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Cluster for
HEALTH OCCUPATIONS

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Revised
DATE 4/1/71

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

Who Works In These Occupations?

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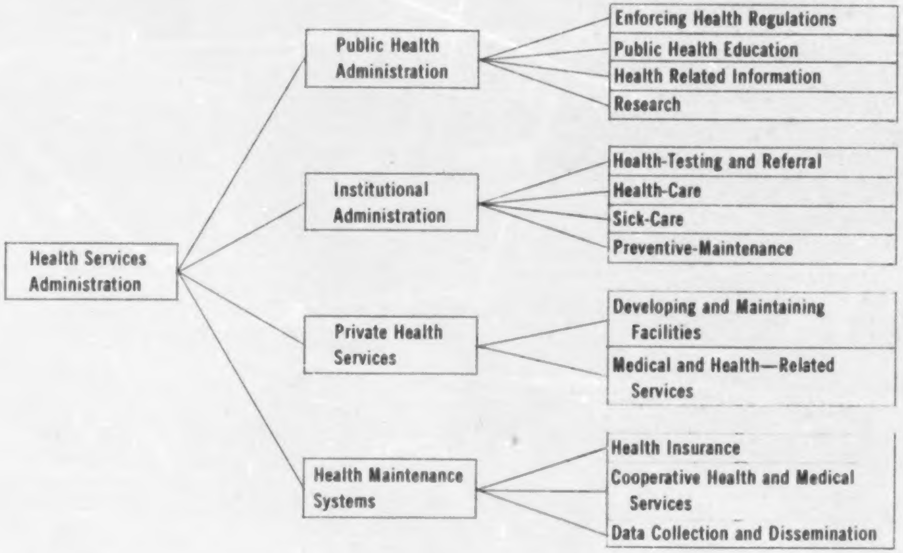
Where Are These Jobs?

How Do They Accomplish Their Jobs?



Health Services Administration
Public Health Administration
Enforcing Health Regulations
Public Health Education
Health Related Information
Research
Institutional Administration
Health-Testing and Referral
Health-Care
Sick-Care
Preventive-Maintenance
Private Health Services
Developing and Maintaining Facilities
Medical and Health—Related Services
Health Maintenance Systems
Health Insurance
Cooperative Health and Medical Services
Data Collection and Dissemination

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

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Cluster for
HEALTH OCCUPATIONS

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

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Where Are These Jobs?

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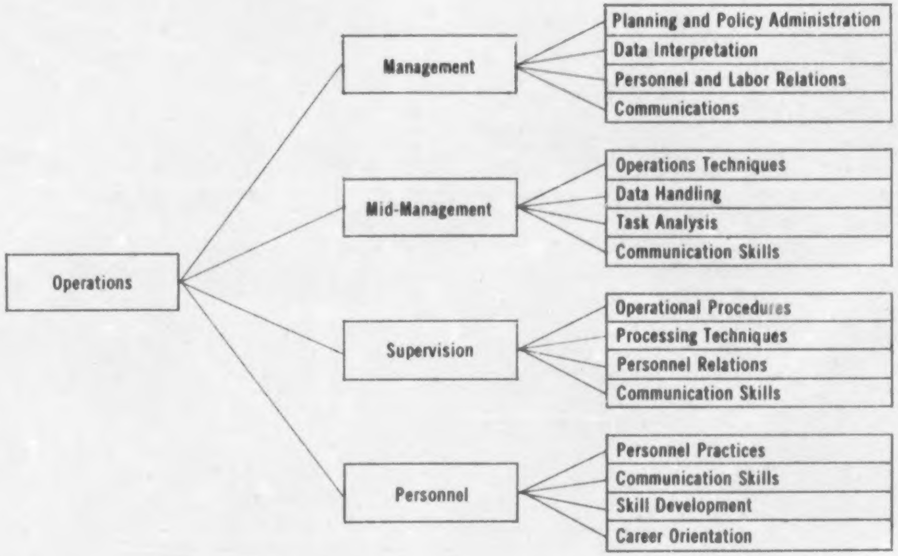
Operations
Management
Planning and Policy Administration
Data Interpretation
Personnel and Labor Relations
Communications
Mid-Management
Operations Techniques
Data Handling
Task Analysis
Communication Skills
Supervision
Operational Procedures
Processing Techniques
Personnel Relations
Communication Skills
Personnel
Personnel Practices
Communication Skills
Skill Development
Career Orientation

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

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Cluster for
MARINE SCIENCE OCCUPATIONS

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound
What Are The
Occupations?

Who Works
In These
Occupations?

What Is Life
Style Of
People?

Who Do People
Work With?

Where Are
These Jobs?

How Do They
Accomplish
Their Jobs?

- Marine Biology
  - Marine Micro-biological Research
    - Boat or Vessel Operation
    - Collection Gear, Operation and Repair
    - Water Sampling for Micro-organism Survey
    - Bacterial Culture, Identification and Isolation
    - Plankton Collection, Perservation and Storage
    - Plankton Sorting, Identification and Packaging
    - Micro-organism Life Cycle and Food Systems
  - Marine Animal (zoological) Research
    - Boat or Vessel Operation
    - Collecting Gear Operation and Repair
    - Navigation, Communication, Meterological Fish Finding Systems
    - Specimen Collection
    - Specimen Sorting, Counting and Storage
    - Live Specimen Laboratory Studies
    - Specimen Dissection, and Micro or Macro Examination
    - Survey of Life Cycle and Range of Species
    - Food Sources and Cycles for Species
    - Diseases, Parasites and Enemies or Species

Job Placement

Apprenticeship
and
Adult Education

Post-Secondary
Occupational
Skill Training

Advanced
Education
(4-Year College
Or More)

Developed By: USOE/DVTE
Draft
Revised
DATE 4/1/71

Cluster for
MARINE SCIENCE OCCUPATIONS

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

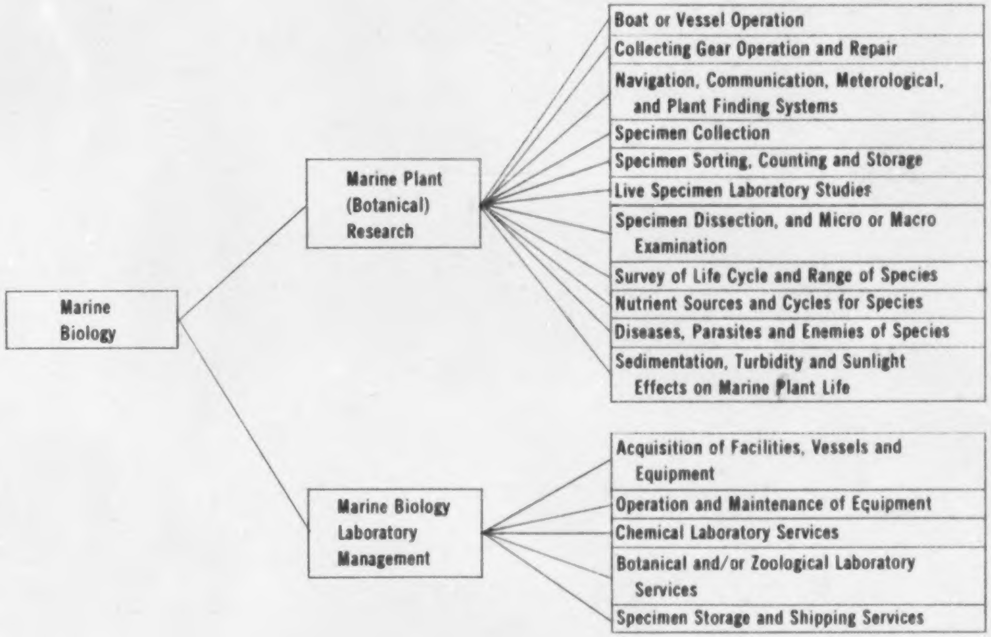
Who Works In These Occupations?

What Is Life Style Of People?

Who Do People Work With?

Where Are These Jobs?

How Do They Accomplish Their Jobs?


Marine Biology
Marine Plant (Botanical) Research
Boat or Vessel Operation
Collecting Gear Operation and Repair
Navigation, Communication, Meterological, and Plant Finding Systems
Specimen Collection
Specimen Sorting, Counting and Storage
Live Specimen Laboratory Studies
Specimen Dissection, and Micro or Macro Examination
Survey of Life Cycle and Range of Species
Nutrient Sources and Cycles for Species
Diseases, Parasites and Enemies of Species
Sedimentation, Turbidity and Sunlight Effects on Marine Plant Life
Marine Biology Laboratory Management
Acquisition of Facilities, Vessels and Equipment
Operation and Maintenance of Equipment
Chemical Laboratory Services
Botanical and/or Zoological Laboratory Services
Specimen Storage and Shipping Services

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Developed By: USOE/DVTE
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Revised
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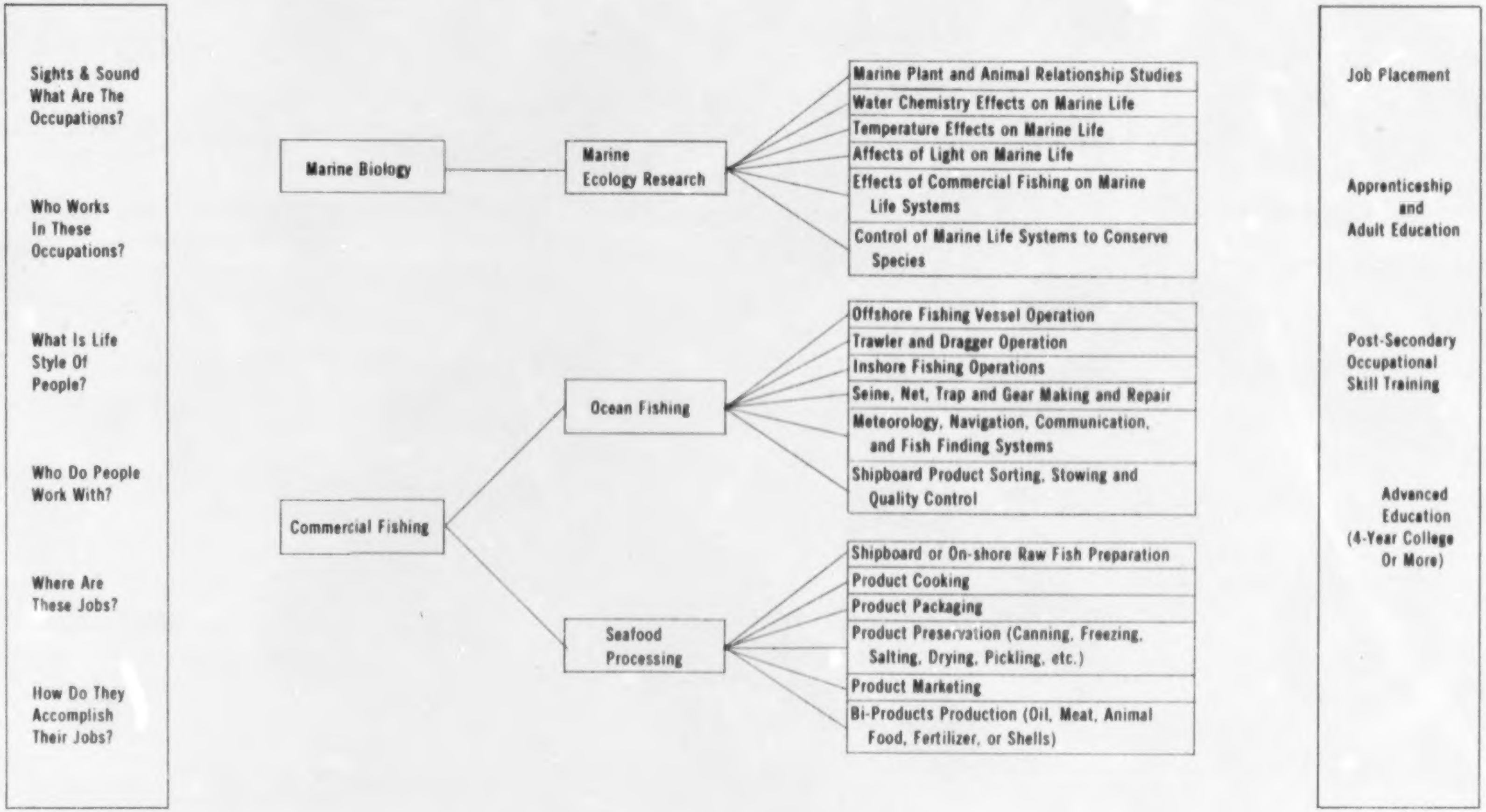
Cluster for
MARINE SCIENCE OCCUPATIONS

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	


Sights & Sound What Are The Occupations?
Who Works In These Occupations?
What Is Life Style Of People?
Who Do People Work With?
Where Are These Jobs?
How Do They Accomplish Their Jobs?
Marine Biology
Marine Ecology Research
Marine Plant and Animal Relationship Studies
Water Chemistry Effects on Marine Life
Temperature Effects on Marine Life
Affects of Light on Marine Life
Effects of Commercial Fishing on Marine Life Systems
Control of Marine Life Systems to Conserve Species
Commercial Fishing
Ocean Fishing
Offshore Fishing Vessel Operation
Trawler and Dragger Operation
Inshore Fishing Operations
Seine, Net, Trap and Gear Making and Repair
Meteorology, Navigation, Communication, and Fish Finding Systems
Shipboard Product Sorting, Stowing and Quality Control
Seafood Processing
Shipboard or On-shore Raw Fish Preparation
Product Cooking
Product Packaging
Product Preservation (Canning, Freezing, Salting, Drying, Pickling, etc.)
Product Marketing
Bi-Products Production (Oil, Meat, Animal Food, Fertilizer, or Shells)
Job Placement
Apprenticeship and Adult Education
Post-Secondary Occupational Skill Training
Advanced Education (4-Year College Or More)

Cluster for
MARINE SCIENCE OCCUPATIONS

Developed By: USOE/DVTE
Draft
Revised
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Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound
What Are The Occupations?

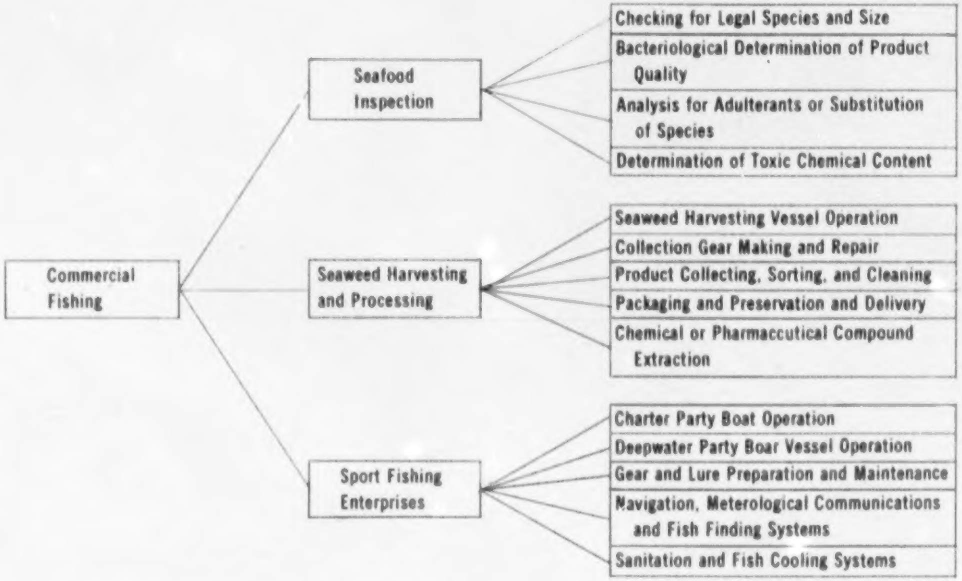
Who Works In These Occupations?

What Is Life Style Of People?

Who Do People Work With?

Where Are These Jobs?

How Do They Accomplish Their Jobs?



- Commercial Fishing
  - Seafood Inspection
    - Checking for Legal Species and Size
    - Bacteriological Determination of Product Quality
    - Analysis for Adulterants or Substitution of Species
    - Determination of Toxic Chemical Content
  - Seaweed Harvesting and Processing
    - Seaweed Harvesting Vessel Operation
    - Collection Gear Making and Repair
    - Product Collecting, Sorting, and Cleaning
    - Packaging and Preservation and Delivery
    - Chemical or Pharmaccutical Compound Extraction
  - Sport Fishing Enterprises
    - Charter Party Boat Operation
    - Deepwater Party Boar Vessel Operation
    - Gear and Lure Preparation and Maintenance
    - Navigation, Meterological Communications and Fish Finding Systems
    - Sanitation and Fish Cooling Systems

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Cluster for
MARINE SCIENCE OCCUPATIONS

Developed By: USOE/DVTE
Draft
Revised
DATE 4/1/71

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

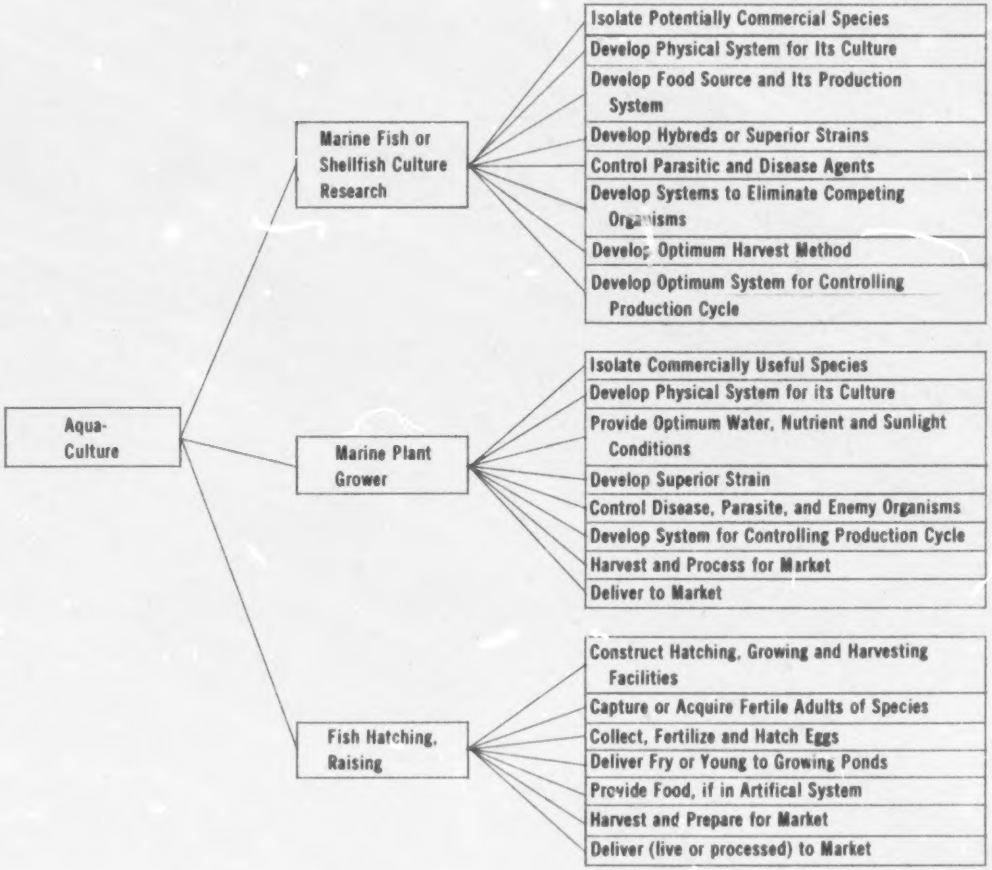
Who Works In These Occupations?

What Is Life Style Of People?

Who Do People Work With?

Where Are These Jobs?

How Do They Accomplish Their Jobs?



- Aqua-Culture
  - Marine Fish or Shellfish Culture Research
    - Isolate Potentially Commercial Species
    - Develop Physical System for Its Culture
    - Develop Food Source and Its Production System
    - Develop Hybreds or Superior Strains
    - Control Parasitic and Disease Agents
    - Develop Systems to Eliminate Competing Organisms
    - Develop Optimum Harvest Method
    - Develop Optimum System for Controlling Production Cycle
  - Marine Plant Grower
    - Isolate Commercially Useful Species
    - Develop Physical System for its Culture
    - Provide Optimum Water, Nutrient and Sunlight Conditions
    - Develop Superior Strain
    - Control Disease, Parasite, and Enemy Organisms
    - Develop System for Controlling Production Cycle
    - Harvest and Process for Market
    - Deliver to Market
  - Fish Hatching, Raising
    - Construct Hatching, Growing and Harvesting Facilities
    - Capture or Acquire Fertile Adults of Species
    - Collect, Fertilize and Hatch Eggs
    - Deliver Fry or Young to Growing Ponds
    - Provide Food, if in Artifical System
    - Harvest and Prepare for Market
    - Deliver (live or processed) to Market

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Cluster for
MARINE SCIENCE OCCUPATIONS

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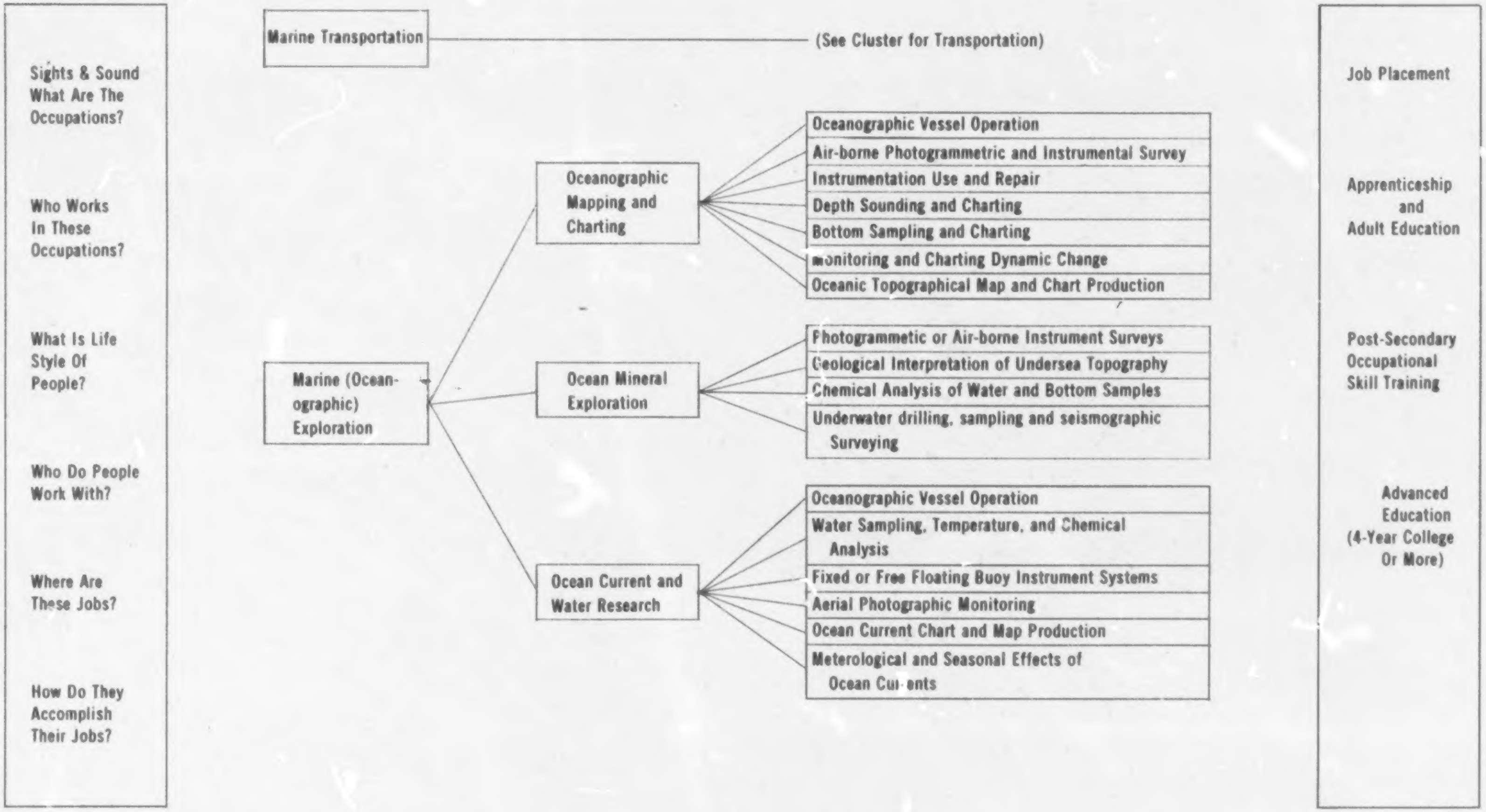
1-2-3-4-5-6	7-8-9	10-11-12	



Sights & Sound What Are The Occupations?

Who Works In These Occupations?

What Is Life Style Of People?

Who Do People Work With?

Where Are These Jobs?

How Do They Accomplish Their Jobs?

Marine Transportation — (See Cluster for Transportation)

Marine (Oceanographic) Exploration

- Oceanographic Mapping and Charting
  - Oceanographic Vessel Operation
  - Air-borne Photogrammetric and Instrumental Survey
  - Instrumentation Use and Repair
  - Depth Sounding and Charting
  - Bottom Sampling and Charting
  - Monitoring and Charting Dynamic Change
  - Oceanic Topographical Map and Chart Production
- Ocean Mineral Exploration
  - Photogrammetic or Air-borne Instrument Surveys
  - Geological Interpretation of Undersea Topography
  - Chemical Analysis of Water and Bottom Samples
  - Underwater drilling, sampling and seismographic Surveying
- Ocean Current and Water Research
  - Oceanographic Vessel Operation
  - Water Sampling, Temperature, and Chemical Analysis
  - Fixed or Free Floating Buoy Instrument Systems
  - Aerial Photographic Monitoring
  - Ocean Current Chart and Map Production
  - Meterological and Seasonal Effects of Ocean Currents

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

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Draft
Revised
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Cluster for
MARINE SCIENCE OCCUPATIONS

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound
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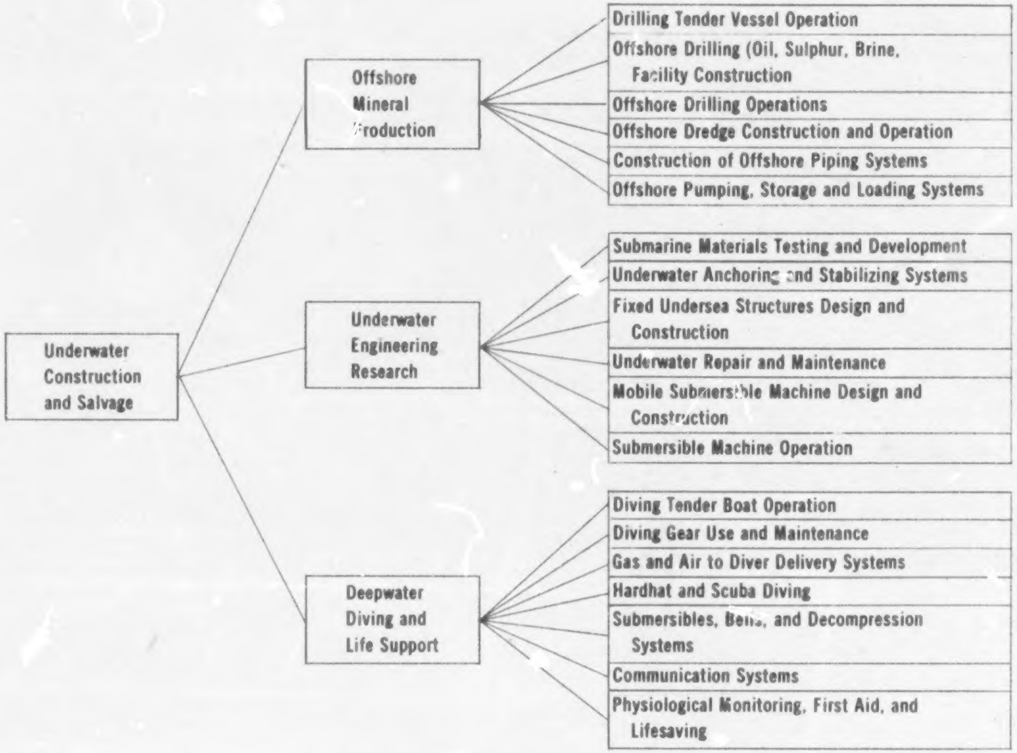

- Underwater Construction and Salvage
  - Offshore Mineral Production
    - Drilling Tender Vessel Operation
    - Offshore Drilling (Oil, Sulphur, Brine, Facility Construction
    - Offshore Drilling Operations
    - Offshore Dredge Construction and Operation
    - Construction of Offshore Piping Systems
    - Offshore Pumping, Storage and Loading Systems
  - Underwater Engineering Research
    - Submarine Materials Testing and Development
    - Underwater Anchoring and Stabilizing Systems
    - Fixed Undersea Structures Design and Construction
    - Underwater Repair and Maintenance
    - Mobile Submersible Machine Design and Construction
    - Submersible Machine Operation
  - Deepwater Diving and Life Support
    - Diving Tender Boat Operation
    - Diving Gear Use and Maintenance
    - Gas and Air to Diver Delivery Systems
    - Hardhat and Scuba Diving
    - Submersibles, Bells, and Decompression Systems
    - Communication Systems
    - Physiological Monitoring, First Aid, and Lifesaving

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Cluster for
MARINE SCIENCE OCCUPATIONS

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Draft
Revised
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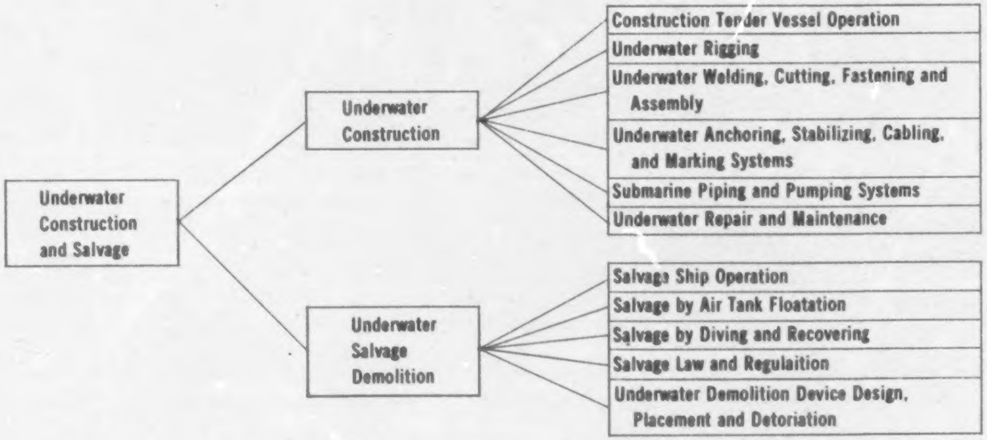
Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

- Sights & Sound What Are The Occupations?
- Who Works In These Occupations?
- What Is Life Style Of People?
- Who Do People Work With?
- Where Are These Jobs?
- How Do They Accomplish Their Jobs?



- Underwater Construction and Salvage
  - Underwater Construction
    - Construction Tender Vessel Operation
    - Underwater Rigging
    - Underwater Welding, Cutting, Fastening and Assembly
    - Underwater Anchoring, Stabilizing, Cabling, and Marking Systems
    - Submarine Piping and Pumping Systems
    - Underwater Repair and Maintenance
  - Underwater Salvage Demolition
    - Salvage Ship Operation
    - Salvage by Air Tank Floatation
    - Salvage by Diving and Recovering
    - Salvage Law and Regulaition
    - Underwater Demolition Device Design, Placement and Detoriation

- Job Placement
- Apprenticeship and Adult Education
- Post-Secondary Occupational Skill Training
- Advanced Education (4-Year College Or More)

Cluster for
COMMUNICATION AND MEDIA

Developed By: USOE/DVTE
Draft
Revised
DATE 4/1/71

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

Who Works In These Occupations?

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Where Are These Jobs?

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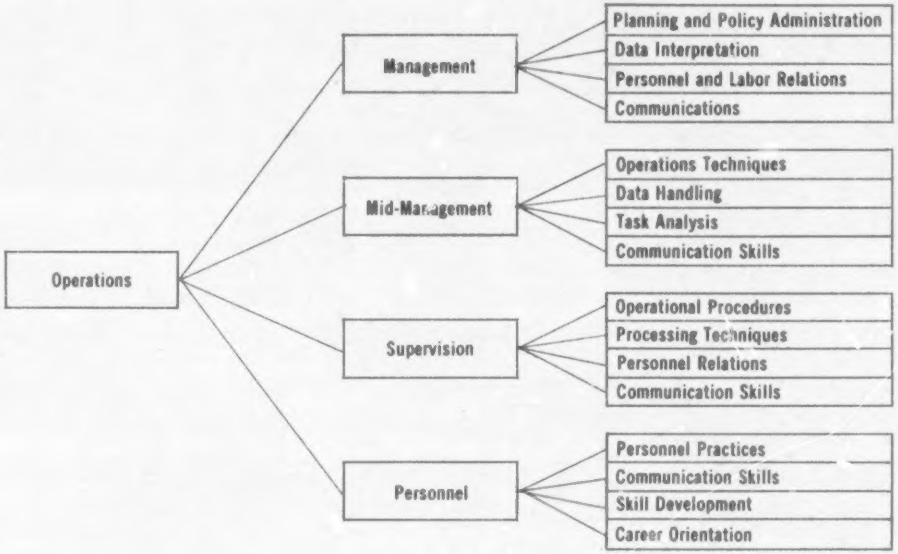
Operations
Management
Planning and Policy Administration
Data Interpretation
Personnel and Labor Relations
Communications
Mid-Management
Operations Techniques
Data Handling
Task Analysis
Communication Skills
Supervision
Operational Procedures
Processing Techniques
Personnel Relations
Communication Skills
Personnel
Personnel Practices
Communication Skills
Skill Development
Career Orientation

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Cluster for
COMMUNICATION AND MEDIA

Developed By: USOE/DVTE
Draft
Revised
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1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

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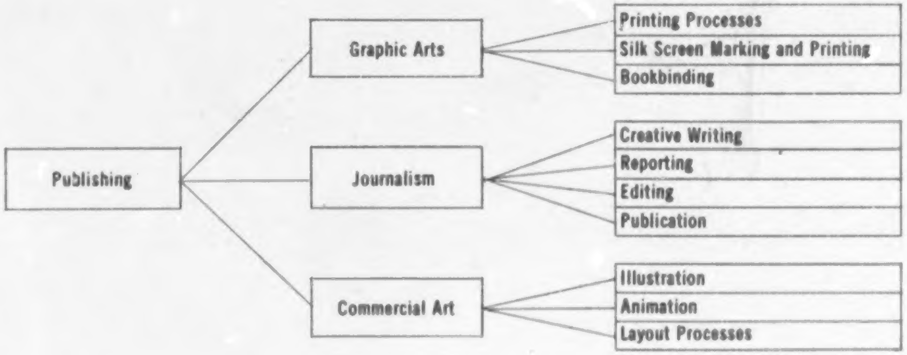
Where Are These Jobs?

How Do They Accomplish Their Jobs?


Publishing
Graphic Arts
Printing Processes
Silk Screen Marking and Printing
Bookbinding
Journalism
Creative Writing
Reporting
Editing
Publication
Commercial Art
Illustration
Animation
Layout Processes

Job Placement

Apprenticeship and Adult Education

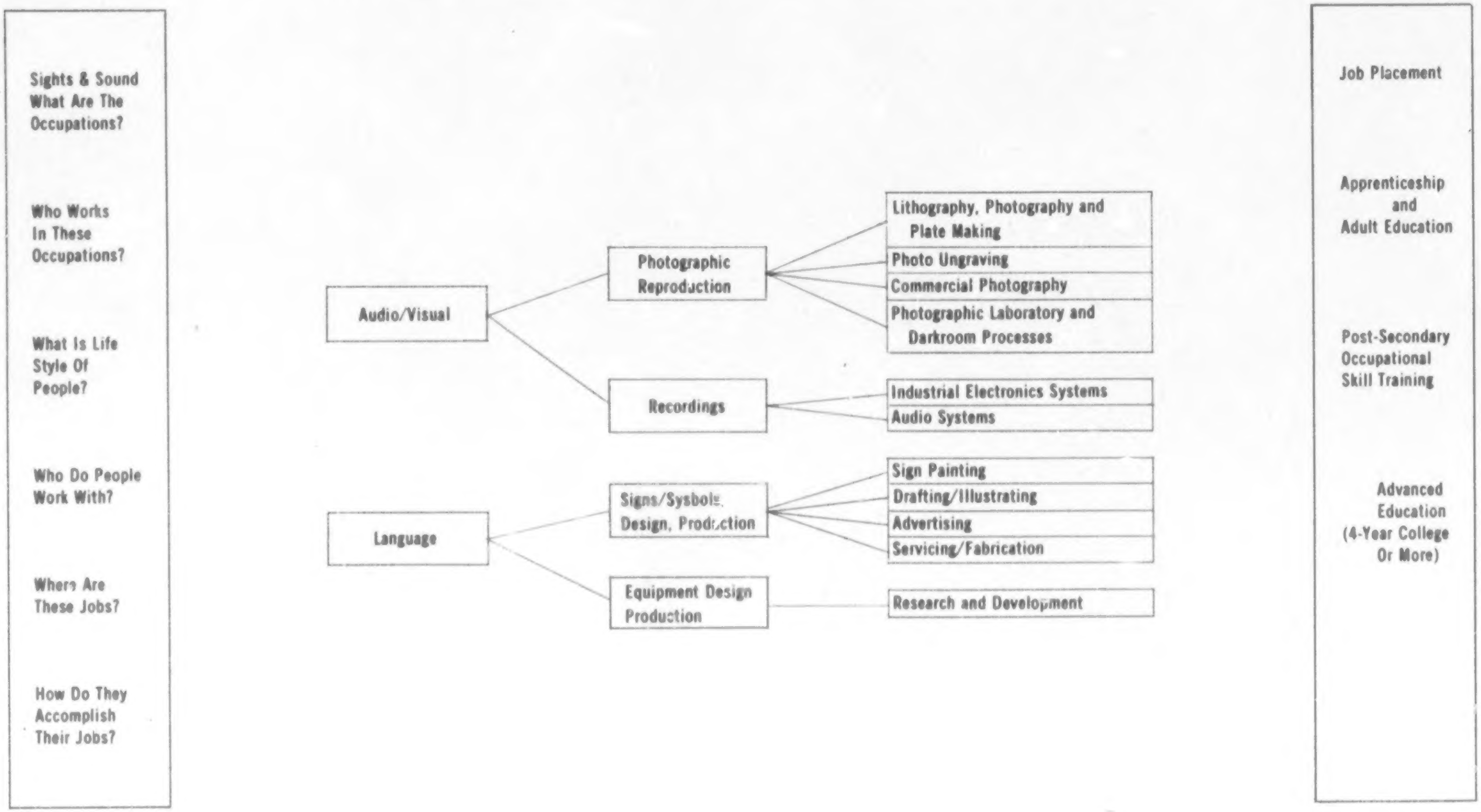
Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Developed By: USOE/DVTE
Draft
Revised
DATE 4/1/71

Cluster for
COMMUNICATION AND MEDIA

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

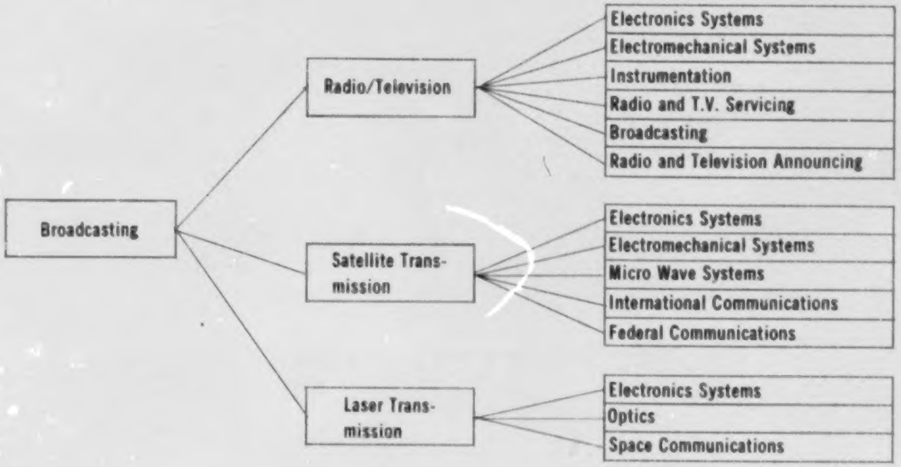

Sights & Sound What Are The Occupations?
Who Works In These Occupations?
What Is Life Style Of People?
Who Do People Work With?
Where Are These Jobs?
How Do They Accomplish Their Jobs?
Audio/Visual
Language
Photographic Reproduction
Recordings
Signs/Sysbols Design, Production
Equipment Design Production
Lithography, Photography and Plate Making
Photo Ungraving
Commercial Photography
Photographic Laboratory and Darkroom Processes
Industrial Electronics Systems
Audio Systems
Sign Painting
Drafting/Illustrating
Advertising
Servicing/Fabrication
Research and Development
Job Placement
Apprenticeship and Adult Education
Post-Secondary Occupational Skill Training
Advanced Education (4-Year College Or More)

Cluster for
COMMUNICATION AND MEDIA

Developed By: USOE/DVTE
Draft
Revised
DATE 4/1/71

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

- Sights & Sound What Are The Occupations?
- Who Works In These Occupations?
- What Is Life Style Of People?
- Who Do People Work With?
- Where Are These Jobs?
- How Do They Accomplish Their Jobs?


Broadcasting
Radio/Television
Electronics Systems
Electromechanical Systems
Instrumentation
Radio and T.V. Servicing
Broadcasting
Radio and Television Announcing
Satellite Transmission
Electronics Systems
Electromechanical Systems
Micro Wave Systems
International Communications
Federal Communications
Laser Transmission
Electronics Systems
Optics
Space Communications

- Job Placement
- Apprenticeship and Adult Education
- Post-Secondary Occupational Skill Training
- Advanced Education (4-Year College Or More)

Cluster for
COMMUNICATION AND MEDIA

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1-2-3-4-5-6	7-8-9	10-11-12	

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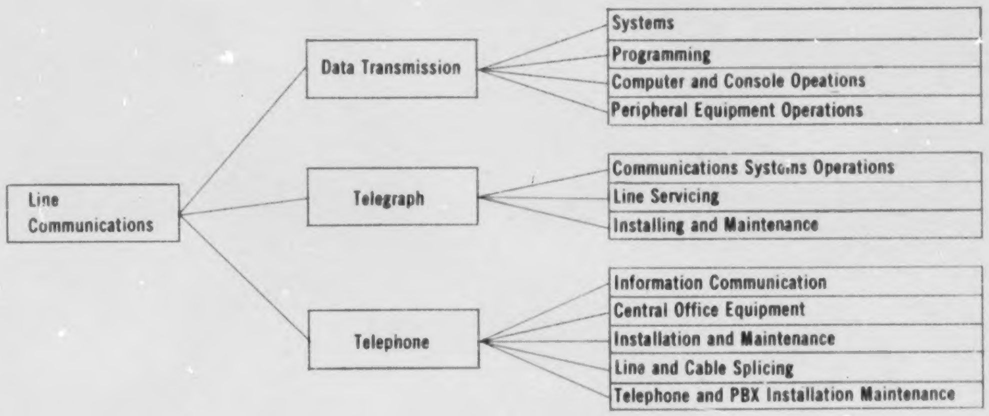
Line Communications
Data Transmission
Systems
Programming
Computer and Console Opeations
Peripheral Equipment Operations
Telegraph
Communications Systems Operations
Line Servicing
Installing and Maintenance
Telephone
Information Communication
Central Office Equipment
Installation and Maintenance
Line and Cable Splicing
Telephone and PBX Installation Maintenance

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Cluster for
BUSINESS AND OFFICE OCCUPATIONS

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Draft
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Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

Who Works In These Occupations?

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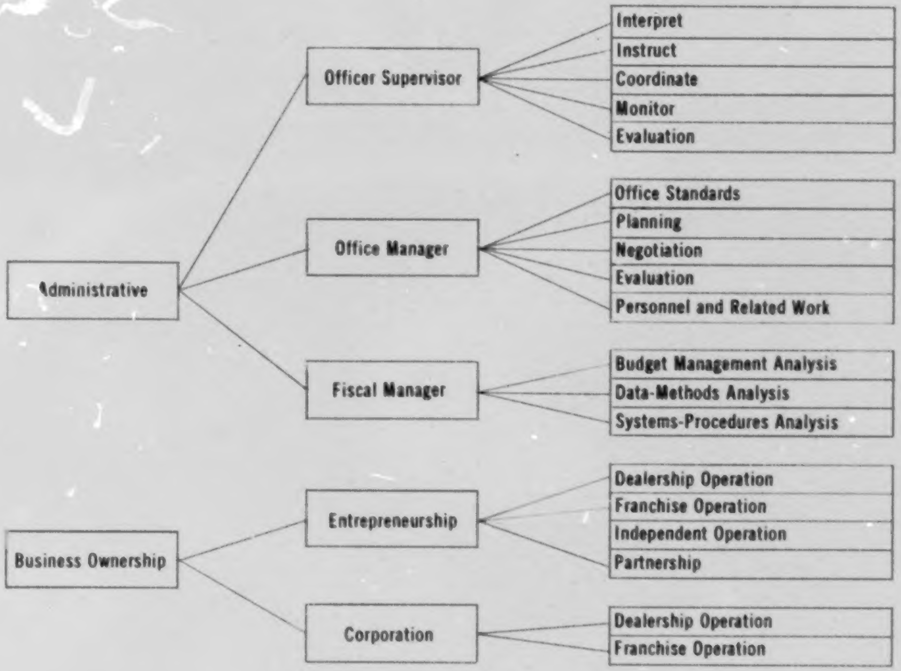
Administrative
Officer Supervisor
Interpret
Instruct
Coordinate
Monitor
Evaluation
Office Manager
Office Standards
Planning
Negotiation
Evaluation
Personnel and Related Work
Fiscal Manager
Budget Management Analysis
Data-Methods Analysis
Systems-Procedures Analysis
Business Ownership
Entrepreneurship
Dealership Operation
Franchise Operation
Independent Operation
Partnership
Corporation
Dealership Operation
Franchise Operation

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Cluster for
BUSINESS AND OFFICE OCCUPATIONS

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Draft
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1-2-3-4-5-6	7-8-9	10-11-12	

- Sights & Sound What Are The Occupations?
- Who Works In These Occupations?
- What Is Life Style Of People?
- Who Do People Work With?
- Where Are These Jobs?
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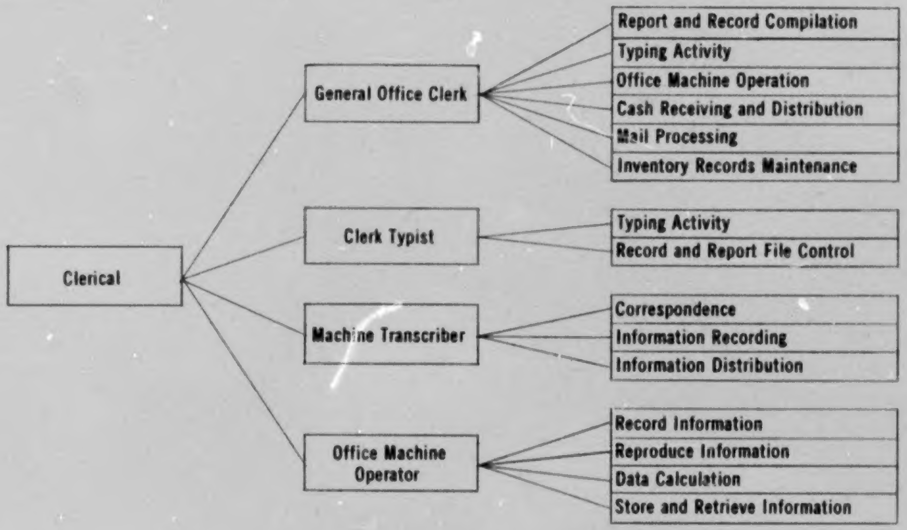

- Clerical
  - General Office Clerk
    - Report and Record Compilation
    - Typing Activity
    - Office Machine Operation
    - Cash Receiving and Distribution
    - Mail Processing
    - Inventory Records Maintenance
  - Clerk Typist
    - Typing Activity
    - Record and Report File Control
  - Machine Transcriber
    - Correspondence
    - Information Recording
    - Information Distribution
  - Office Machine Operator
    - Record Information
    - Reproduce Information
    - Data Calculation
    - Store and Retrieve Information

- Job Placement
- Apprenticeship and Adult Education
- Post-Secondary Occupational Skill Training
- Advanced Education (4-Year College Or More)

Cluster for
BUSINESS AND OFFICE OCCUPATIONS

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1-2-3-4-5-6	7-8-9	10-11-12	

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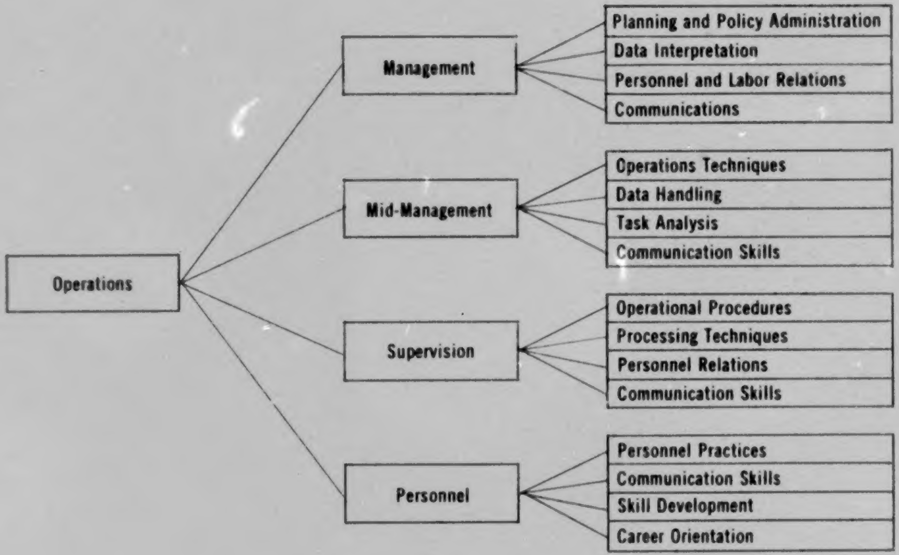
Operations
Management
Planning and Policy Administration
Data Interpretation
Personnel and Labor Relations
Communications
Mid-Management
Operations Techniques
Data Handling
Task Analysis
Communication Skills
Supervision
Operational Procedures
Processing Techniques
Personnel Relations
Communication Skills
Personnel
Personnel Practices
Communication Skills
Skill Development
Career Orientation

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Cluster for
BUSINESS AND OFFICE OCCUPATIONS

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1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

Who Works In These Occupations?

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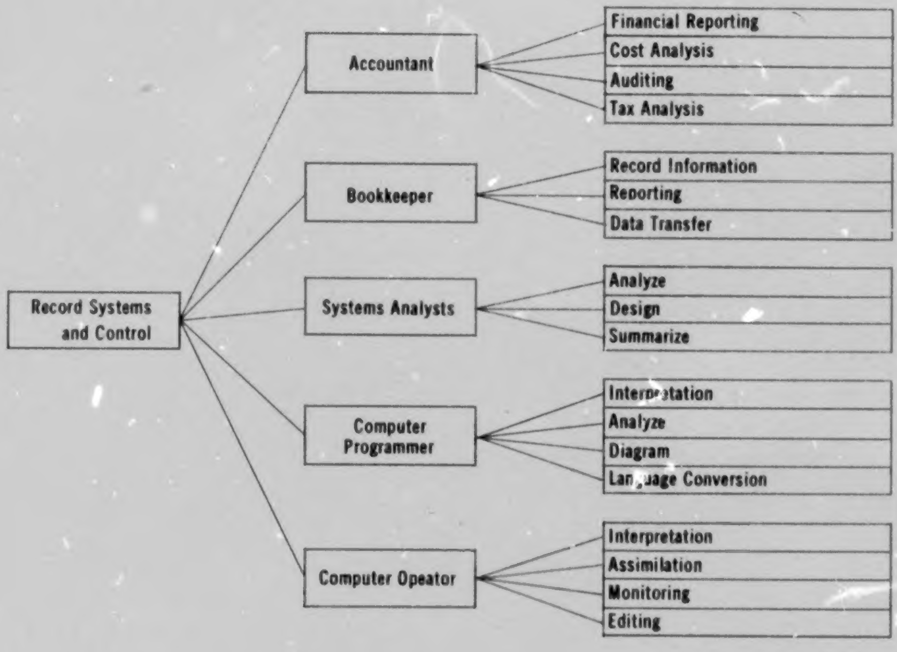
Who Do People Work With?

Where Are These Jobs?

How Do They Accomplish Their Jobs?


Record Systems and Control
Accountant
Financial Reporting
Cost Analysis
Auditing
Tax Analysis
Bookkeeper
Record Information
Reporting
Data Transfer
Systems Analysts
Analyze
Design
Summarize
Computer Programmer
Interpretation
Analyze
Diagram
Language Conversion
Computer Opeator
Interpretation
Assimilation
Monitoring
Editing

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Cluster for
BUSINESS AND OFFICE OCCUPATIONS

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Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

Who Works In These Occupations?

What Is Life Style Of People?

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Where Are These Jobs?

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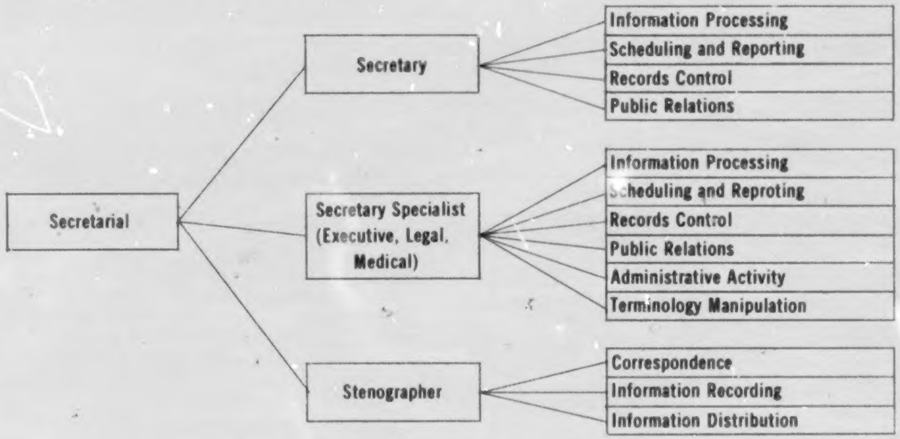

Secretarial
Secretary
Information Processing
Scheduling and Reporting
Records Control
Public Relations
Secretary Specialist (Executive, Legal, Medical)
Information Processing
Scheduling and Reproting
Records Control
Public Relations
Administrative Activity
Terminology Manipulation
Stenographer
Correspondence
Information Recording
Information Distribution

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Cluster for
MARKETING AND DISTRIBUTION OCCUPATIONS

Developed By: USOE/DVTE
Draft
Revised
DATE 4/1/71

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

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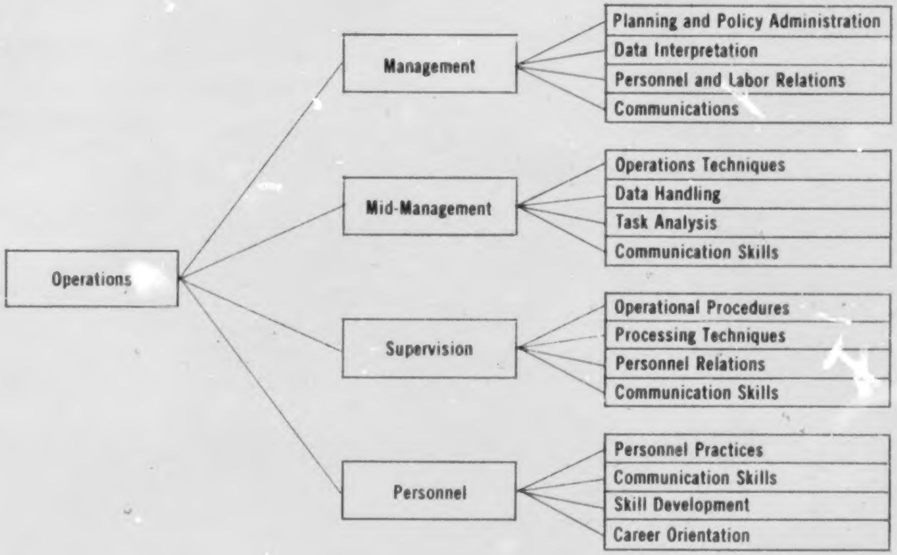
Who Do People Work With?

Where Are These Jobs?

How Do They Accomplish Their Jobs?


Operations
Management
Planning and Policy Administration
Data Interpretation
Personnel and Labor Relations
Communications
Mid-Management
Operations Techniques
Data Handling
Task Analysis
Communication Skills
Supervision
Operational Procedures
Processing Techniques
Personnel Relations
Communication Skills
Personnel
Personnel Practices
Communication Skills
Skill Development
Career Orientation

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Developed By: USOE/DVTE
Draft
Revised
DATE 4/1/71

Cluster for
MARKETING AND DISTRIBUTION OCCUPATIONS

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

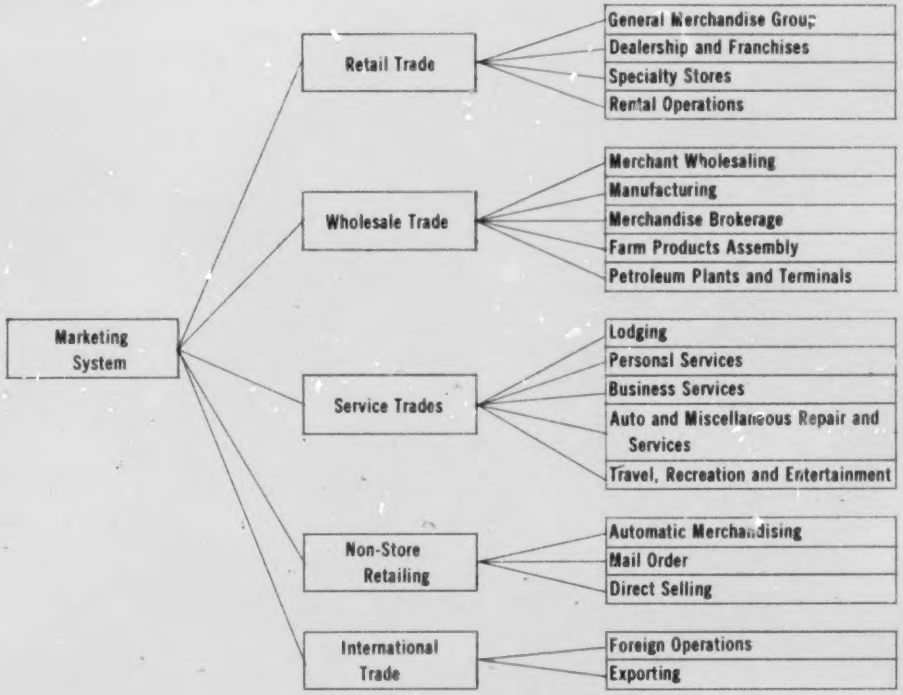
Who Works In These Occupations?

What Is Life Style Of People?

Who Do People Work With?

Where Are These Jobs?

How Do They Accomplish Their Jobs?


Marketing System
Retail Trade
General Merchandise Group
Dealership and Franchises
Specialty Stores
Rental Operations
Wholesale Trade
Merchant Wholesaling
Manufacturing
Merchandise Brokerage
Farm Products Assembly
Petroleum Plants and Terminals
Service Trades
Lodging
Personal Services
Business Services
Auto and Miscellaneous Repair and Services
Travel, Recreation and Entertainment
Non-Store Retailing
Automatic Merchandising
Mail Order
Direct Selling
International Trade
Foreign Operations
Exporting

Job Placement

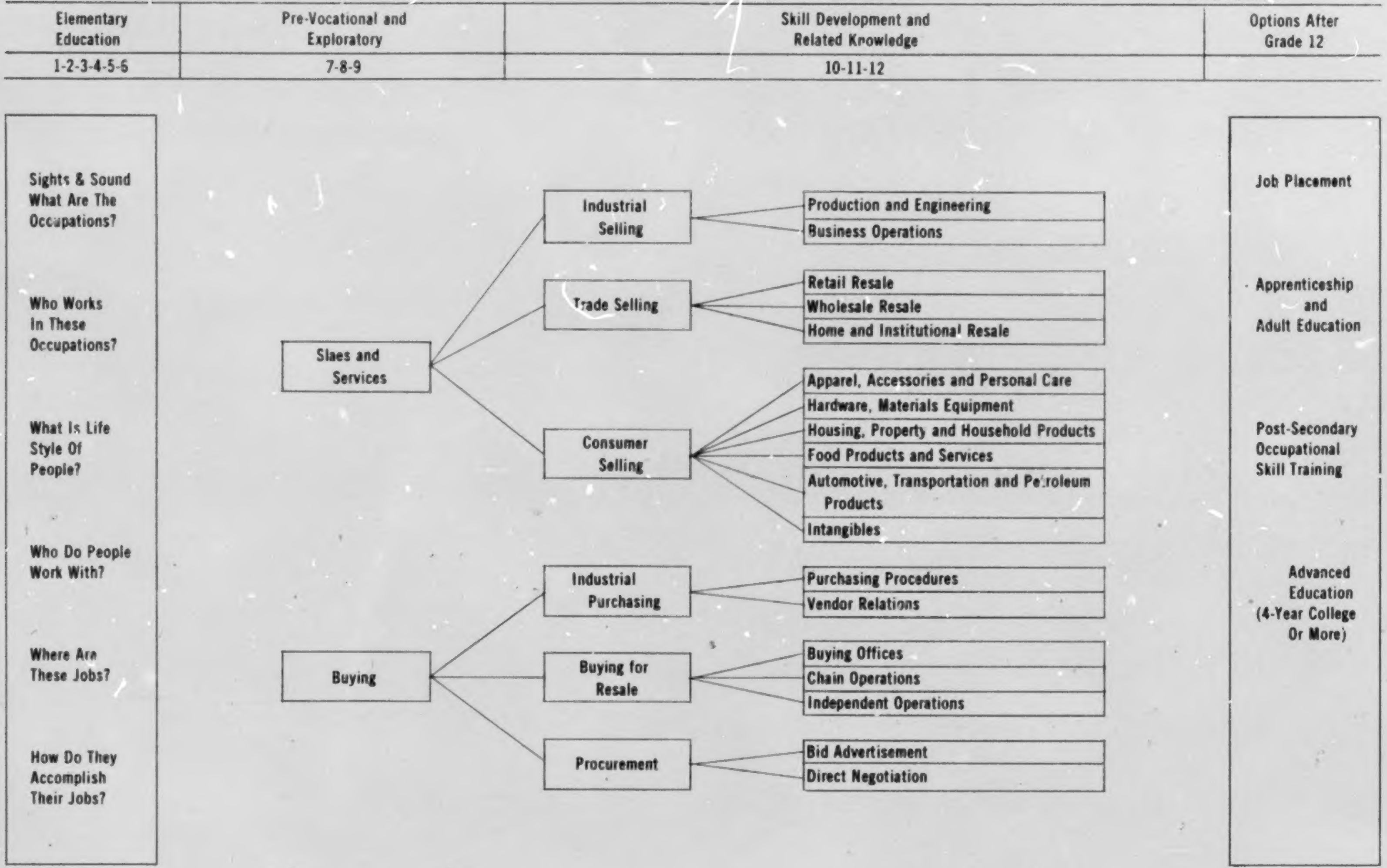
Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Cluster for
MARKETING AND DISTRIBUTION OCCUPATIONS

Developed By: USOE/DVTE
Draft
Revised
DATE 4/1/71


Elementary Education
1-2-3-4-5-6
Pre-Vocational and Exploratory
7-8-9
Skill Development and Related Knowledge
10-11-12
Options After Grade 12
Sights & Sound What Are The Occupations?
Who Works In These Occupations?
What Is Life Style Of People?
Who Do People Work With?
Where Are These Jobs?
How Do They Accomplish Their Jobs?
Slaes and Services
Buying
Industrial Selling
Trade Selling
Consumer Selling
Industrial Purchasing
Buying for Resale
Procurement
Production and Engineering
Business Operations
Retail Resale
Wholesale Resale
Home and Institutional Resale
Apparel, Accessories and Personal Care
Hardware, Materials Equipment
Housing, Property and Household Products
Food Products and Services
Automotive, Transportation and Petroleum Products
Intangibles
Purchasing Procedures
Vendor Relations
Buying Offices
Chain Operations
Independent Operations
Bid Advertisement
Direct Negotiation
Job Placement
Apprenticeship and Adult Education
Post-Secondary Occupational Skill Training
Advanced Education (4-Year College Or More)

Cluster for
MARKETING AND DISTRIBUTION OCCUPATIONS

Developed By: USOE/DVTE
Draft
Revised
DATE 4/1/71

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

Who Works In These Occupations?

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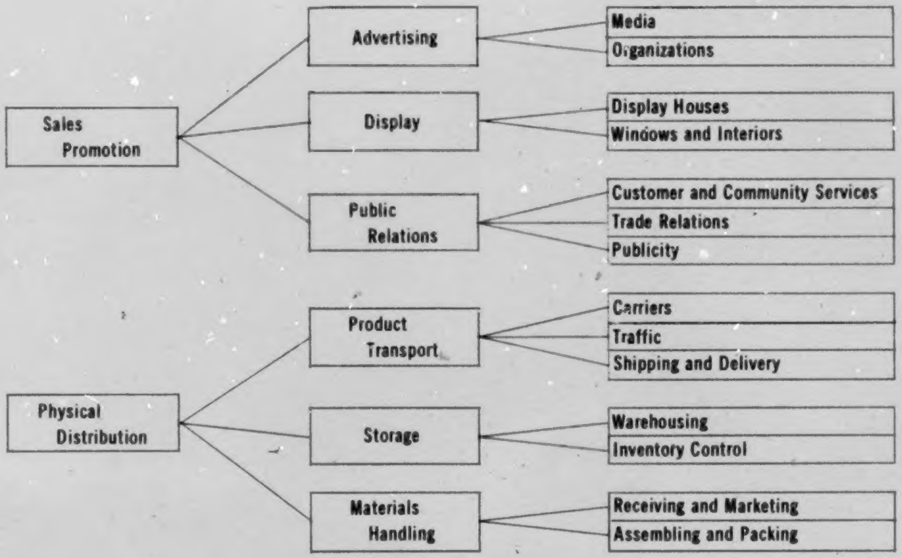
Where Are These Jobs?

How Do They Accomplish Their Jobs?


Sales Promotion
Advertising
Media
Organizations
Display
Display Houses
Windows and Interiors
Public Relations
Customer and Community Services
Trade Relations
Publicity
Physical Distribution
Product Transport
Carriers
Traffic
Shipping and Delivery
Storage
Warehousing
Inventory Control
Materials Handling
Receiving and Marketing
Assembling and Packing

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

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Draft
Revised
DATE 4/1/71

Cluster for
MARKETING AND DISTRIBUTION OCCUPATIONS

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

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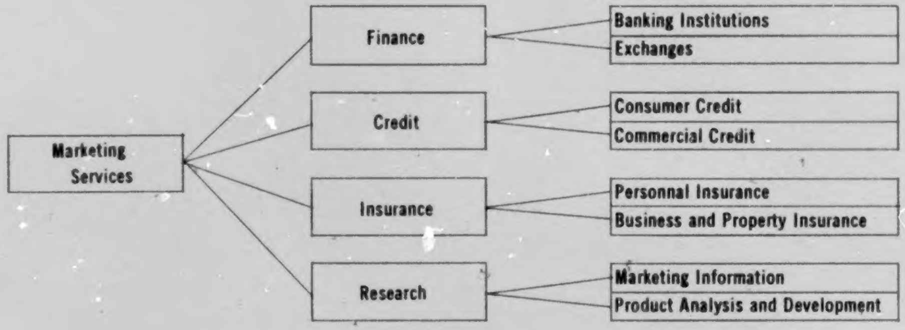
Where Are These Jobs?

How Do They Accomplish Their Jobs?


Marketing Services
Finance
Banking Institutions
Exchanges
Credit
Consumer Credit
Commercial Credit
Insurance
Personnal Insurance
Business and Property Insurance
Research
Marketing Information
Product Analysis and Development

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

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Revised
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Cluster for
PUBLIC SERVICE

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

Who Works In These Occupations?

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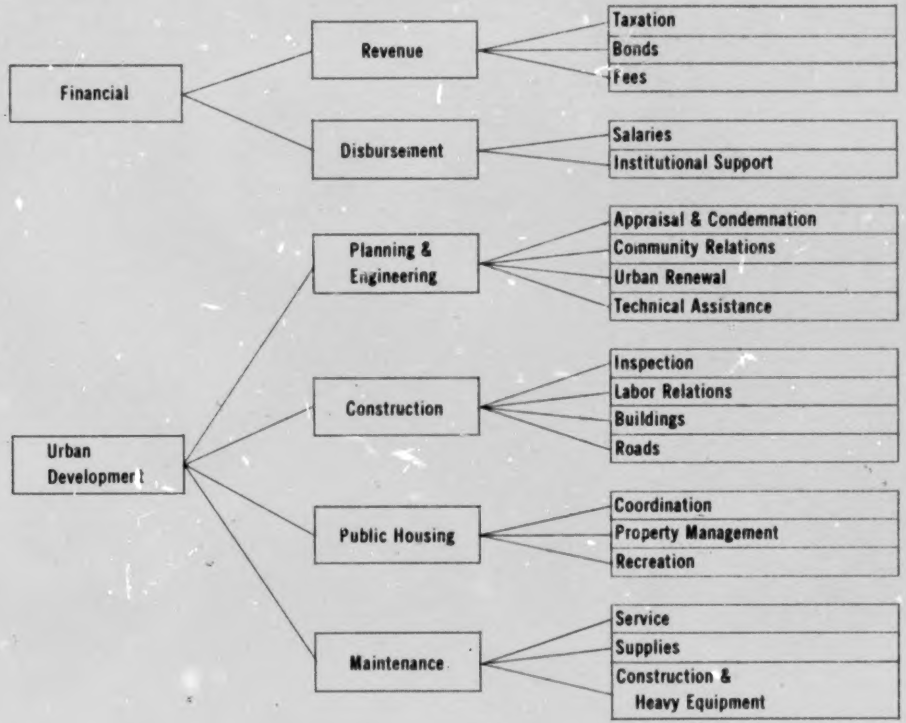
Where Are These Jobs?

How Do They Accomplish Their Jobs?


Financial
Revenue
Taxation
Bonds
Fees
Disbursement
Salaries
Institutional Support
Urban Development
Planning & Engineering
Appraisal & Condemnation
Community Relations
Urban Renewal
Technical Assistance
Construction
Inspection
Labor Relations
Buildings
Roads
Public Housing
Coordination
Property Management
Recreation
Maintenance
Service
Supplies
Construction & Heavy Equipment

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Cluster for
PUBLIC SERVICE

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Draft
Revised
DATE 4/1/71

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

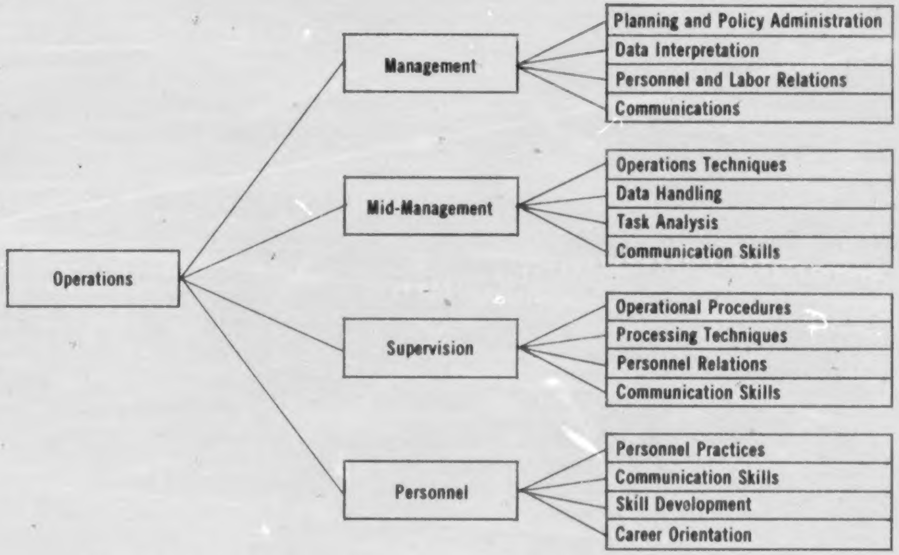
Who Works In These Occupations?

What Is Life Style Of People?

Who Do People Work With?

Where Are These Jobs?

How Do They Accomplish Their Jobs?


Operations
Management
Planning and Policy Administration
Data Interpretation
Personnel and Labor Relations
Communications
Mid-Management
Operations Techniques
Data Handling
Task Analysis
Communication Skills
Supervision
Operational Procedures
Processing Techniques
Personnel Relations
Communication Skills
Personnel
Personnel Practices
Communication Skills
Skill Development
Career Orientation

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Cluster for
PUBLIC SERVICE

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Draft
Revised
DATE 4/1/71

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

Who Works In These Occupations?

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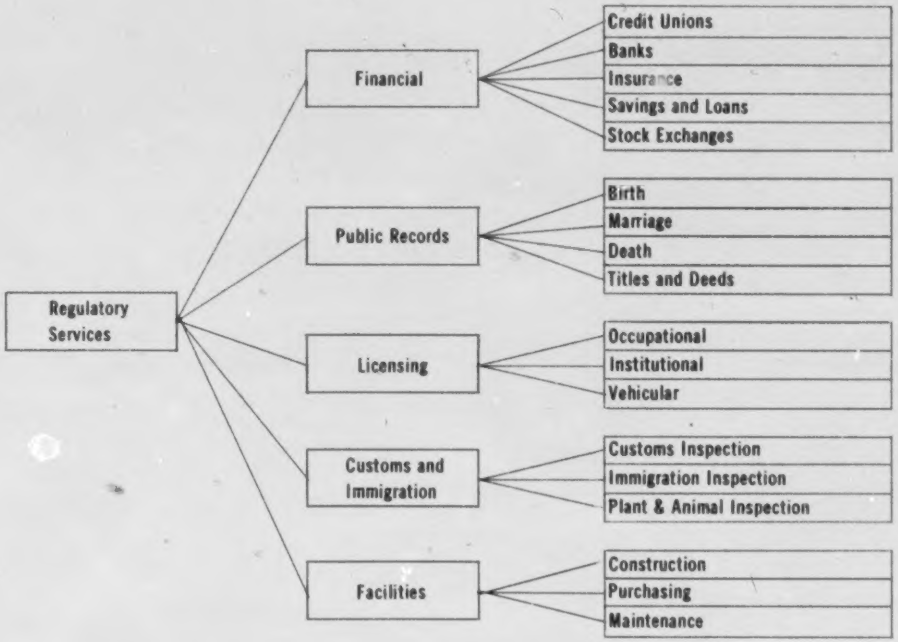
Where Are These Jobs?

How Do They Accomplish Their Jobs?


Regulatory Services
Financial
Credit Unions
Banks
Insurance
Savings and Loans
Stock Exchanges
Public Records
Birth
Marriage
Death
Titles and Deeds
Licensing
Occupational
Institutional
Vehicular
Customs and Immigration
Customs Inspection
Immigration Inspection
Plant & Animal Inspection
Facilities
Construction
Purchasing
Maintenance

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

3 7

3 8

Cluster for
PUBLIC SERVICE

Developed By: USOE/DVT
Draft
Revised
DATE 4/1/71

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

Who Works In These Occupations?

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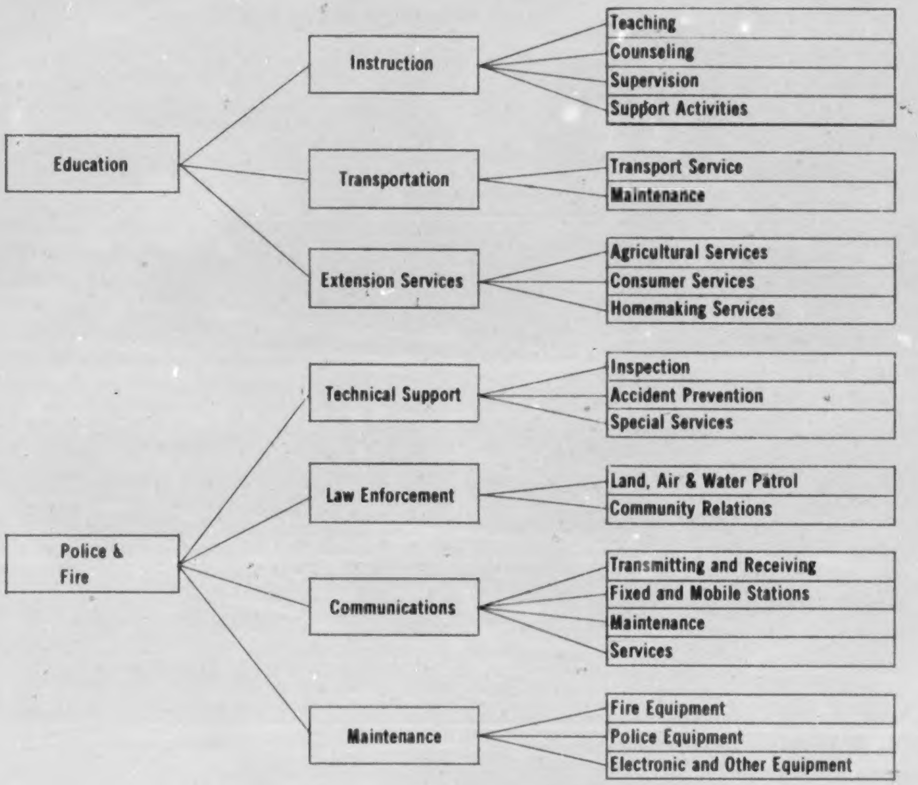
Where Are These Jobs?

How Do They Accomplish Their Jobs?


Education
Instruction
Teaching
Counseling
Supervision
Support Activities
Transportation
Transport Service
Maintenance
Extension Services
Agricultural Services
Consumer Services
Homemaking Services
Police & Fire
Technical Support
Inspection
Accident Prevention
Special Services
Law Enforcement
Land, Air & Water Patrol
Community Relations
Communications
Transmitting and Receiving
Fixed and Mobile Stations
Maintenance
Services
Maintenance
Fire Equipment
Police Equipment
Electronic and Other Equipment

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

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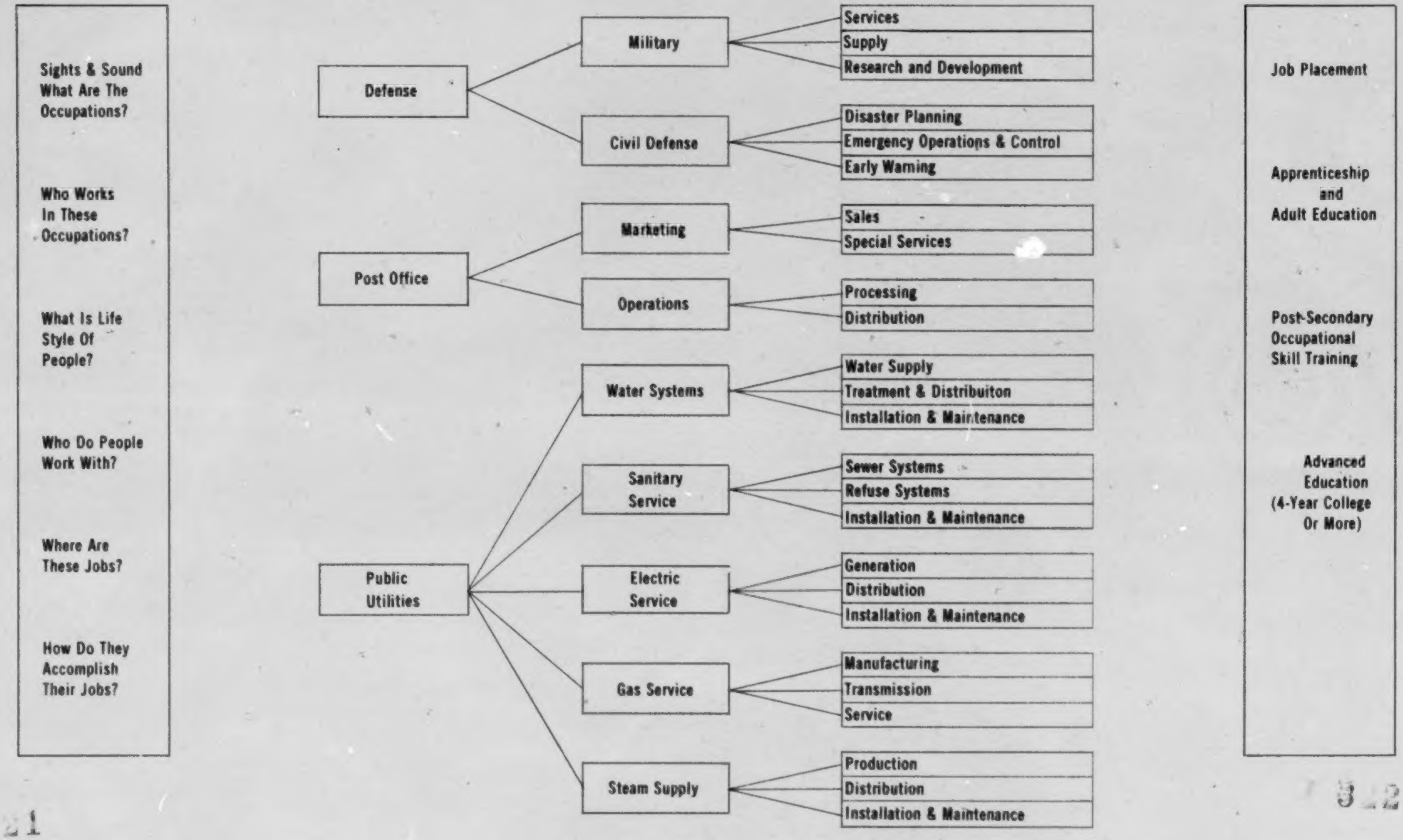
Revised
DATE 4/1/71

Cluster for
PUBLIC SERVICE

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	


Sights & Sound What Are The Occupations?
Who Works In These Occupations?
What Is Life Style Of People?
Who Do People Work With?
Where Are These Jobs?
How Do They Accomplish Their Jobs?
Defense
Military
Services
Supply
Research and Development
Civil Defense
Disaster Planning
Emergency Operations & Control
Early Warning
Post Office
Marketing
Sales
Special Services
Operations
Processing
Distribution
Public Utilities
Water Systems
Water Supply
Treatment & Distribuiton
Installation & Maintenance
Sanitary Service
Sewer Systems
Refuse Systems
Installation & Maintenance
Electric Service
Generation
Distribution
Installation & Maintenance
Gas Service
Manufacturing
Transmission
Service
Steam Supply
Production
Distribution
Installation & Maintenance
Job Placement
Apprenticeship and Adult Education
Post-Secondary Occupational Skill Training
Advanced Education (4-Year College Or More)

Cluster for
PUBLIC SERVICE

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Revised
DATE 4/1/71

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

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Where Are These Jobs?

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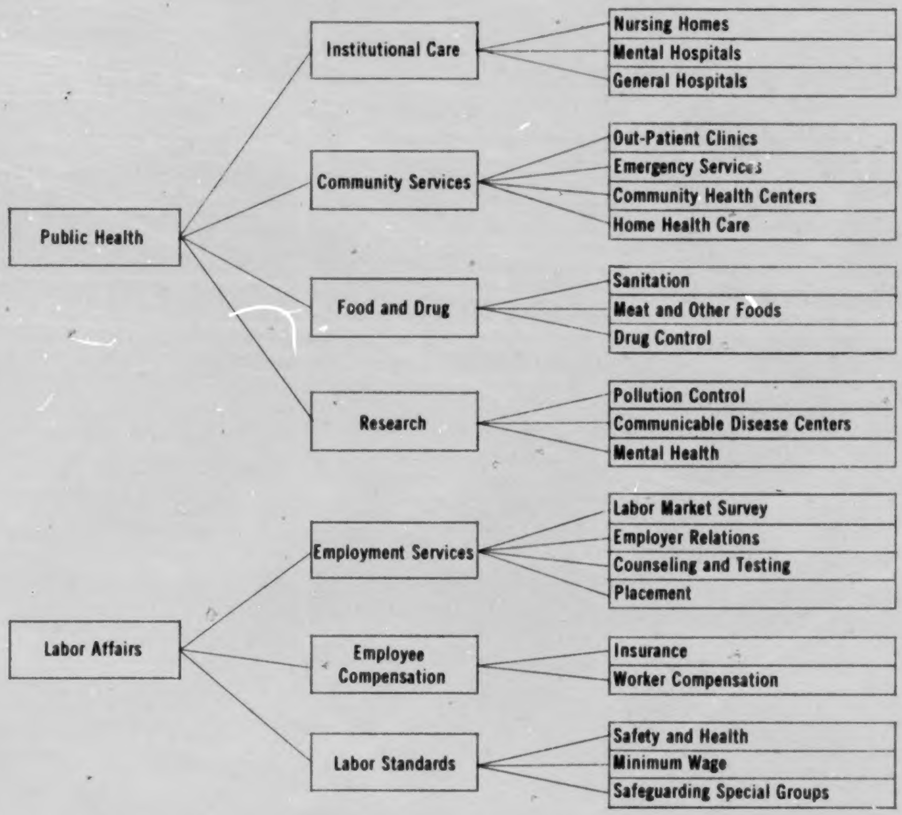

Public Health
Institutional Care
Nursing Homes
Mental Hospitals
General Hospitals
Community Services
Out-Patient Clinics
Emergency Services
Community Health Centers
Home Health Care
Food and Drug
Sanitation
Meat and Other Foods
Drug Control
Research
Pollution Control
Communicable Disease Centers
Mental Health
Labor Affairs
Employment Services
Labor Market Survey
Employer Relations
Counseling and Testing
Placement
Employee Compensation
Insurance
Worker Compensation
Labor Standards
Safety and Health
Minimum Wage
Safeguarding Special Groups

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

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Revised
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Cluster for
PUBLIC SERVICE

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

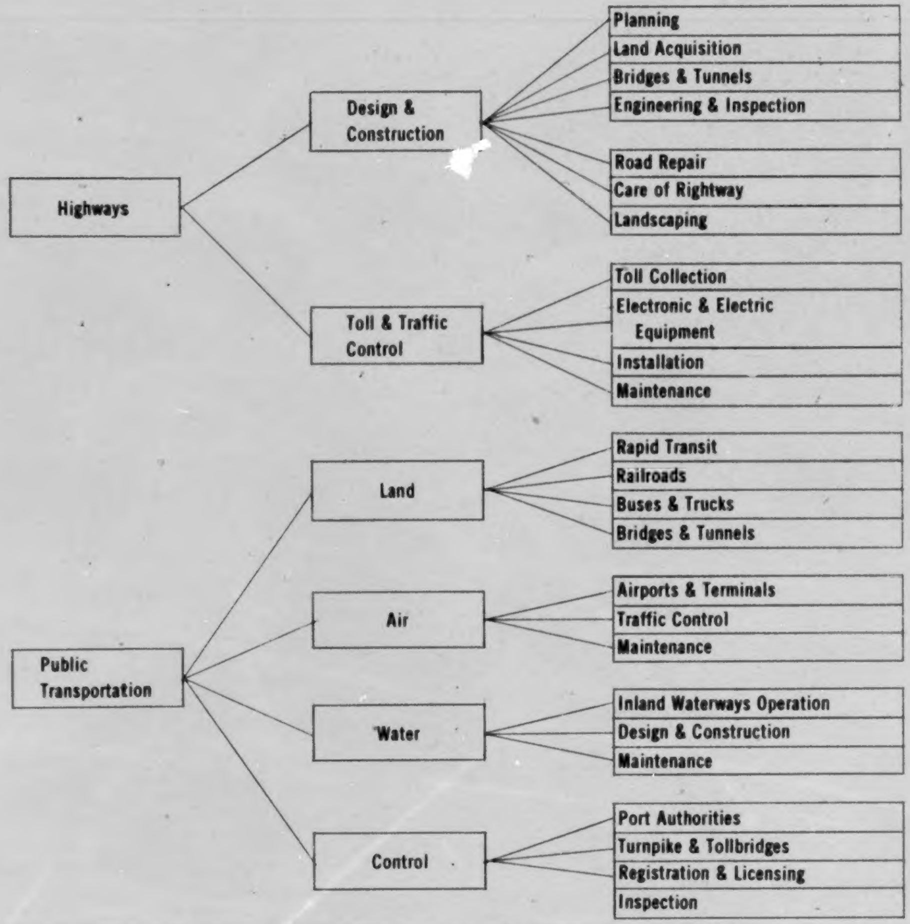
Who Works In These Occupations?

What Is Life Style Of People?

Who Do People Work With?

Where Are These Jobs?

How Do They Accomplish Their Jobs?


Highways
Design & Construction
Planning
Land Acquisition
Bridges & Tunnels
Engineering & Inspection
Road Repair
Care of Rightway
Landscaping
Toll & Traffic Control
Toll Collection
Electronic & Electric Equipment
Installation
Maintenance
Public Transportation
Land
Rapid Transit
Railroads
Buses & Trucks
Bridges & Tunnels
Air
Airports & Terminals
Traffic Control
Maintenance
Water
Inland Waterways Operation
Design & Construction
Maintenance
Control
Port Authorities
Turnpike & Tollbridges
Registration & Licensing
Inspection

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Cluster for
PUBLIC SERVICE

Developed By: USOE/DVTE
Draft
Revised
DATE 4/1/71

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

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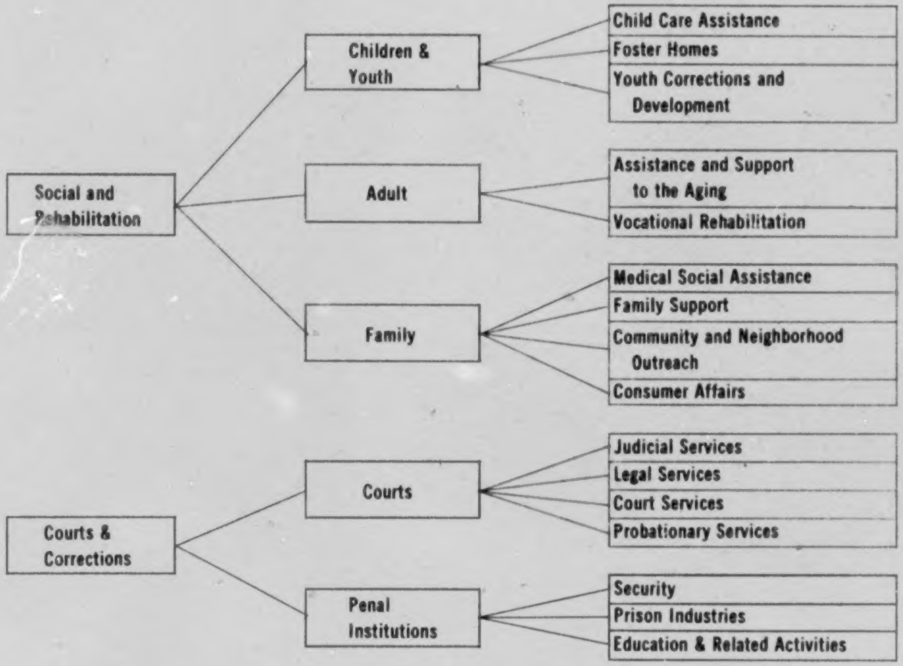
What Is Life Style Of People?

Who Do People Work With?

Where Are These Jobs?

How Do They Accomplish Their Jobs?


Social and Rehabilitation
Children & Youth
Child Care Assistance
Foster Homes
Youth Corrections and Development
Adult
Assistance and Support to the Aging
Vocational Rehabilitation
Family
Medical Social Assistance
Family Support
Community and Neighborhood Outreach
Consumer Affairs
Courts & Corrections
Courts
Judicial Services
Legal Services
Court Services
Probationary Services
Penal Institutions
Security
Prison Industries
Education & Related Activities

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Cluster for
PUBLIC SERVICE

Developed By: USOE/DVTE
Draft
Revised
DATE 4/1/71

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

Who Works In These Occupations?

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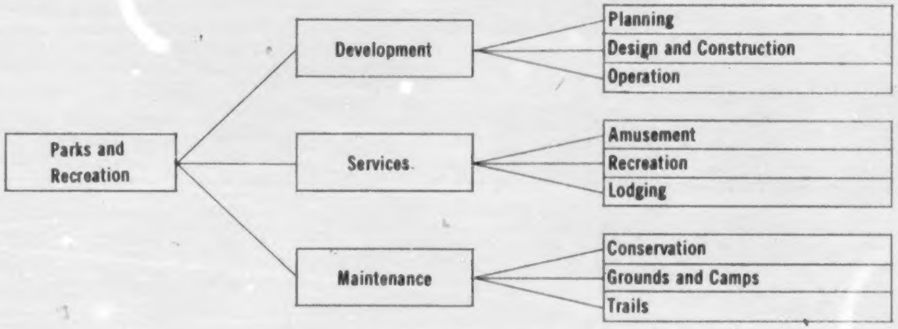
Who Do People Work With?

Where Are These Jobs?

How Do They Accomplish Their Jobs?


Parks and Recreation
Development
Planning
Design and Construction
Operation
Services
Amusement
Recreation
Lodging
Maintenance
Conservation
Grounds and Camps
Trails

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

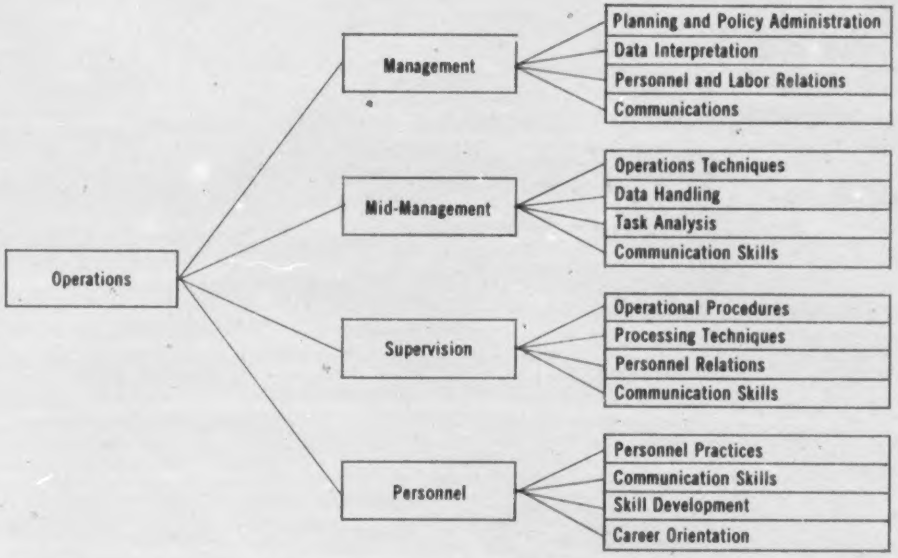
Advanced Education (4-Year College Or More)

Cluster for
TRANSPORTATION

Developed By: USOE/DVTE
Draft
Revised
DATE 4/1/71

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

- Sights & Sound What Are The Occupations?
- Who Works In These Occupations?
- What Is Life Style Of People?
- Who Do People Work With?
- Where Are These Jobs?
- How Do They Accomplish Their Jobs?



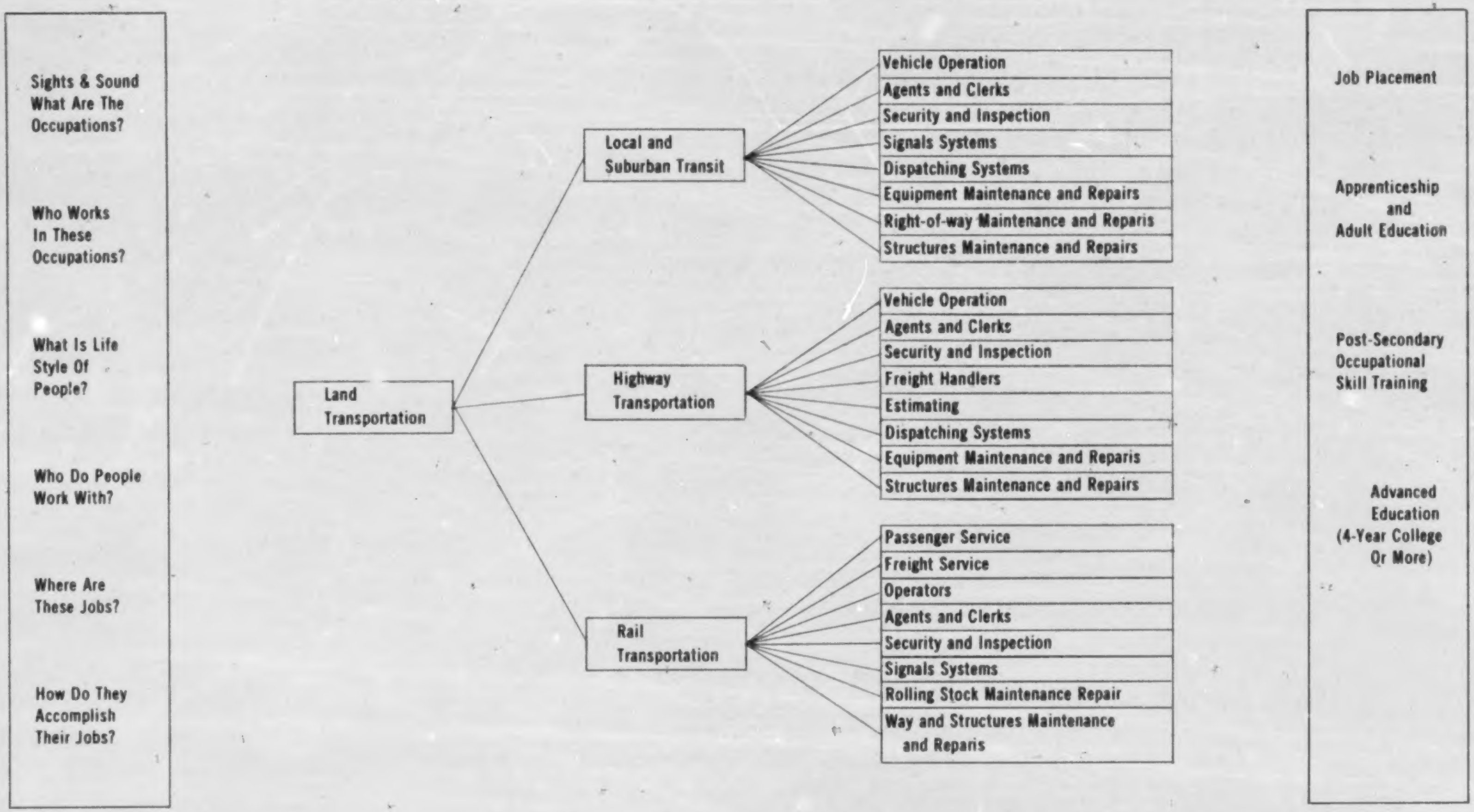
- Operations
  - Management
    - Planning and Policy Administration
    - Data Interpretation
    - Personnel and Labor Relations
    - Communications
  - Mid-Management
    - Operations Techniques
    - Data Handling
    - Task Analysis
    - Communication Skills
  - Supervision
    - Operational Procedures
    - Processing Techniques
    - Personnel Relations
    - Communication Skills
  - Personnel
    - Personnel Practices
    - Communication Skills
    - Skill Development
    - Career Orientation

- Job Placement
- Apprenticeship and Adult Education
- Post-Secondary Occupational Skill Training
- Advanced Education (4-Year College Or More)

Cluster for
TRANSPORTATION

Developed By: USOE/DVTE
Draft
Revised
DATE 4/1/71

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	



Sights & Sound What Are The Occupations?

Who Works In These Occupations?

What Is Life Style Of People?

Who Do People Work With?

Where Are These Jobs?

How Do They Accomplish Their Jobs?

Land Transportation

- Local and Suburban Transit
  - Vehicle Operation
  - Agents and Clerks
  - Security and Inspection
  - Signals Systems
  - Dispatching Systems
  - Equipment Maintenance and Repairs
  - Right-of-way Maintenance and Reparis
  - Structures Maintenance and Repairs
- Highway Transportation
  - Vehicle Operation
  - Agents and Clerks
  - Security and Inspection
  - Freight Handlers
  - Estimating
  - Dispatching Systems
  - Equipment Maintenance and Reparis
  - Structures Maintenance and Repairs
- Rail Transportation
  - Passenger Service
  - Freight Service
  - Operators
  - Agents and Clerks
  - Security and Inspection
  - Signals Systems
  - Rolling Stock Maintenance Repair
  - Way and Structures Maintenance and Reparis

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Cluster for
TRANSPORTATION

Developed By: USOE/DVTE
Draft
Revised
DATE 4/1/71

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

Who Works In These Occupations?

What Is Life Style Of People?

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Where Are These Jobs?

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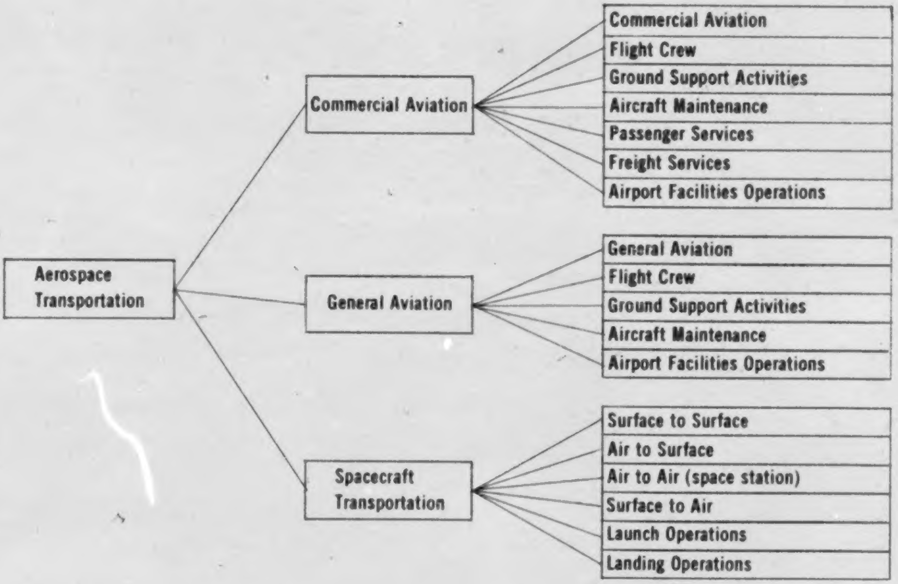
Aerospace Transportation
Commercial Aviation
General Aviation
Spacecraft Transportation
Commercial Aviation
Flight Crew
Ground Support Activities
Aircraft Maintenance
Passenger Services
Freight Services
Airport Facilities Operations
General Aviation
Flight Crew
Ground Support Activities
Aircraft Maintenance
Airport Facilities Operations
Surface to Surface
Air to Surface
Air to Air (space station)
Surface to Air
Launch Operations
Landing Operations

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

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Draft
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Cluster for
TRANSPORTATION

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

Who Works In These Occupations?

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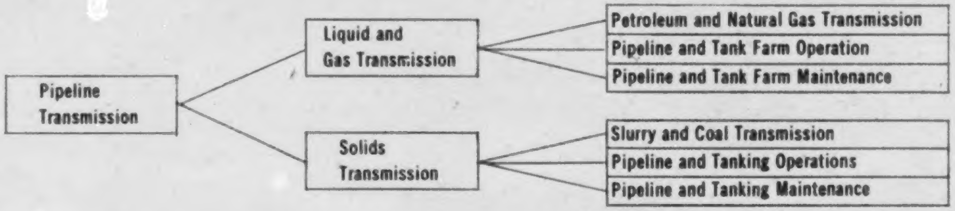
Where Are These Jobs?

How Do They Accomplish Their Jobs?


Pipeline Transmission
Liquid and Gas Transmission
Petroleum and Natural Gas Transmission
Pipeline and Tank Farm Operation
Pipeline and Tank Farm Maintenance
Solids Transmission
Slurry and Coal Transmission
Pipeline and Tanking Operations
Pipeline and Tanking Maintenance

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

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Cluster for
TRANSPORTATION

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

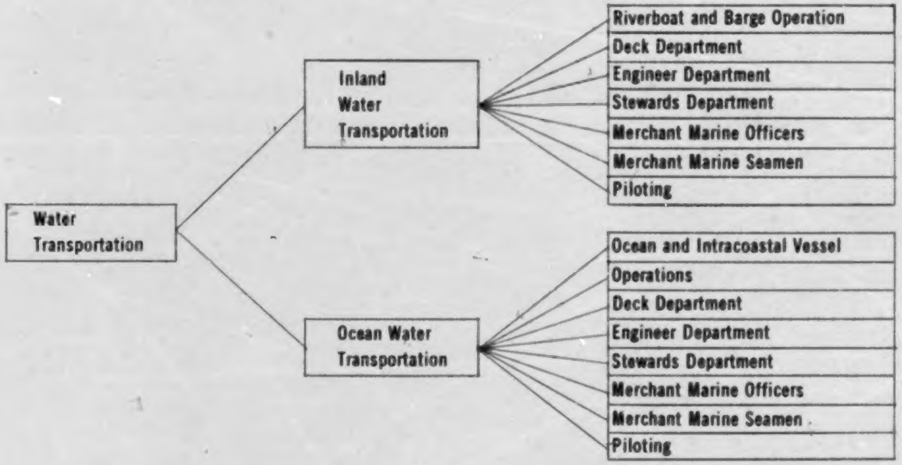
Who Works In These Occupations?

What Is Life Style Of People?

Who Do People Work With?

Where Are These Jobs?

How Do They Accomplish Their Jobs?


Water Transportation
Inland Water Transportation
Ocean Water Transportation
Riverboat and Barge Operation
Deck Department
Engineer Department
Stewards Department
Merchant Marine Officers
Merchant Marine Seamen
Piloting
Ocean and Intracoastal Vessel
Operations
Deck Department
Engineer Department
Stewards Department
Merchant Marine Officers
Merchant Marine Seamen
Piloting

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Cluster for
PERSONAL SERVICES OCCUPATIONS

Developed By: USOE/DVTE
Draft
Revised
DATE 4/1/71

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound
What Are The Occupations?

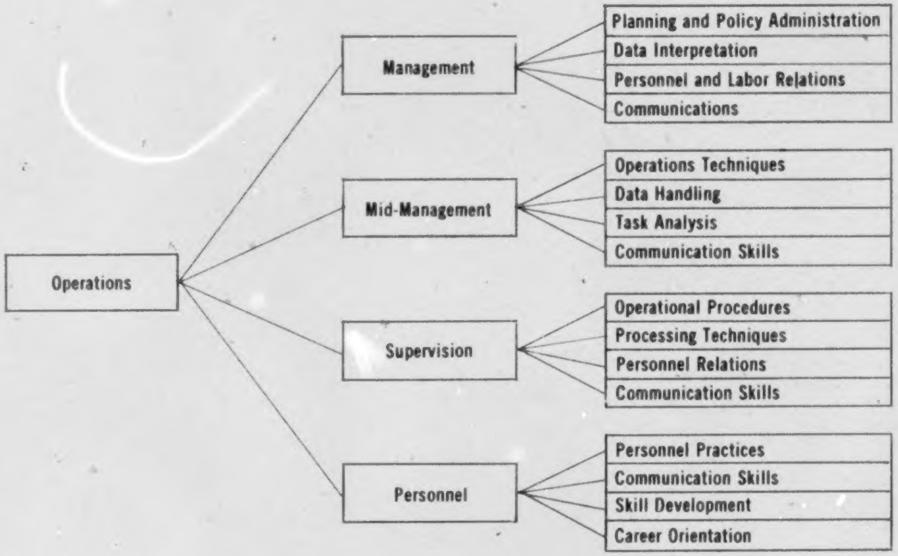
Who Works In These Occupations?

What Is Life Style Of People?

Who Do People Work With?

Where Are These Jobs?

How Do They Accomplish Their Jobs?


Operations
Management
Planning and Policy Administration
Data Interpretation
Personnel and Labor Relations
Communications
Mid-Management
Operations Techniques
Data Handling
Task Analysis
Communication Skills
Supervision
Operational Procedures
Processing Techniques
Personnel Relations
Communication Skills
Personnel
Personnel Practices
Communication Skills
Skill Development
Career Orientation

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

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DATE 4/1/71

Cluster for
PERSONAL SERVICES OCCUPATIONS

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

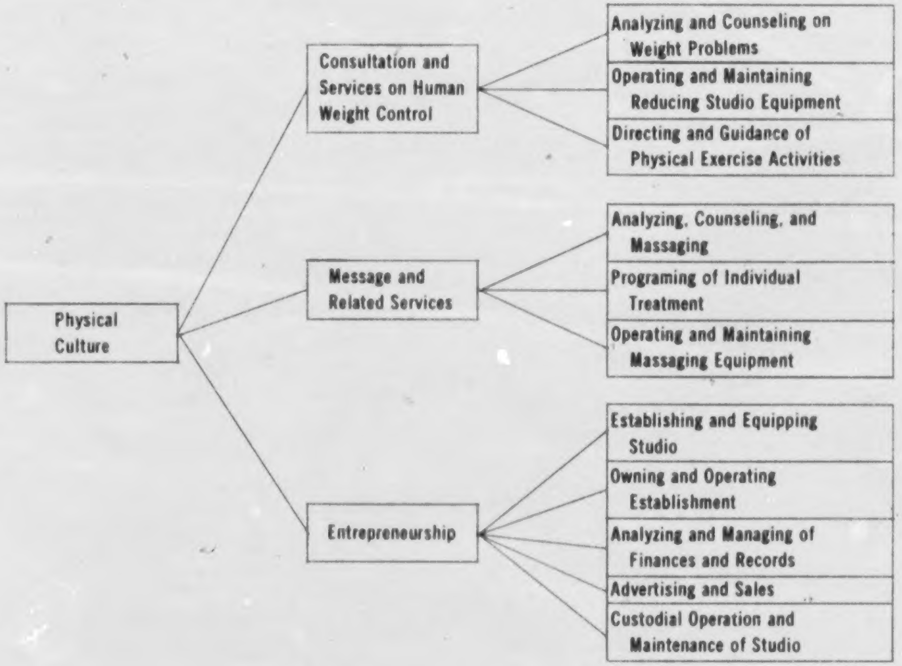
Who Works In These Occupations?

What Is Life Style Of People?

Who Do People Work With?

Where Are These Jobs?

How Do They Accomplish Their Jobs?


Physical Culture
Consultation and Services on Human Weight Control
Analyzing and Counseling on Weight Problems
Operating and Maintaining Reducing Studio Equipment
Directing and Guidance of Physical Exercise Activities
Message and Related Services
Analyzing, Counseling, and Massaging
Programing of Individual Treatment
Operating and Maintaining Massaging Equipment
Entrepreneurship
Establishing and Equipping Studio
Owning and Operating Establishment
Analyzing and Managing of Finances and Records
Advertising and Sales
Custodial Operation and Maintenance of Studio

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Cluster for
PERSONAL SERVICES OCCUPATIONS

Developed By: USOE/DVTE
Draft
Revised
DATE 4/1/71

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

Who Works In These Occupations?

What Is Life Style Of People?

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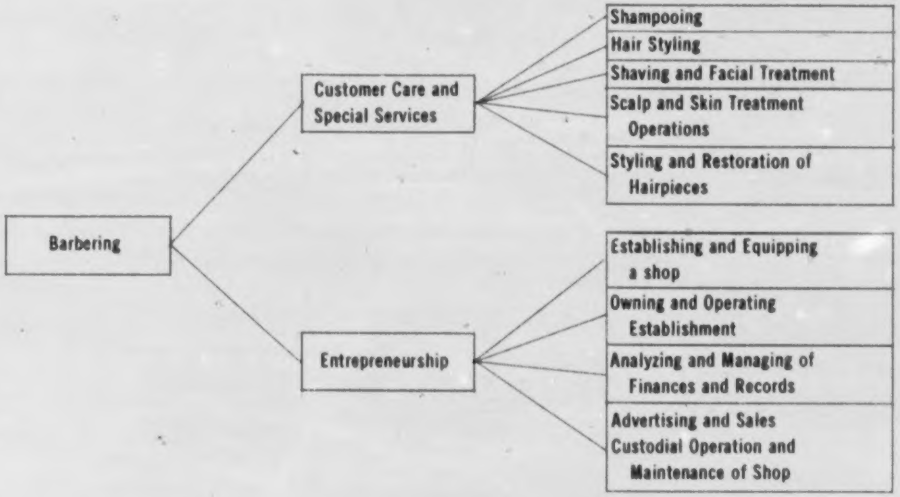
Where Are These Jobs?

How Do They Accomplish Their Jobs?


Barbering
Customer Care and Special Services
Shampooing
Hair Styling
Shaving and Facial Treatment
Scalp and Skin Treatment Operations
Styling and Restoration of Hairpieces
Entrepreneurship
Establishing and Equipping a shop
Owning and Operating Establishment
Analyzing and Managing of Finances and Records
Advertising and Sales
Custodial Operation and Maintenance of Shop

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College -Or More)

Cluster for
PERSONAL SERVICES OCCUPATIONS

Developed By: USOE/DVTE
Draft
Revised
DATE 4/1/71

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

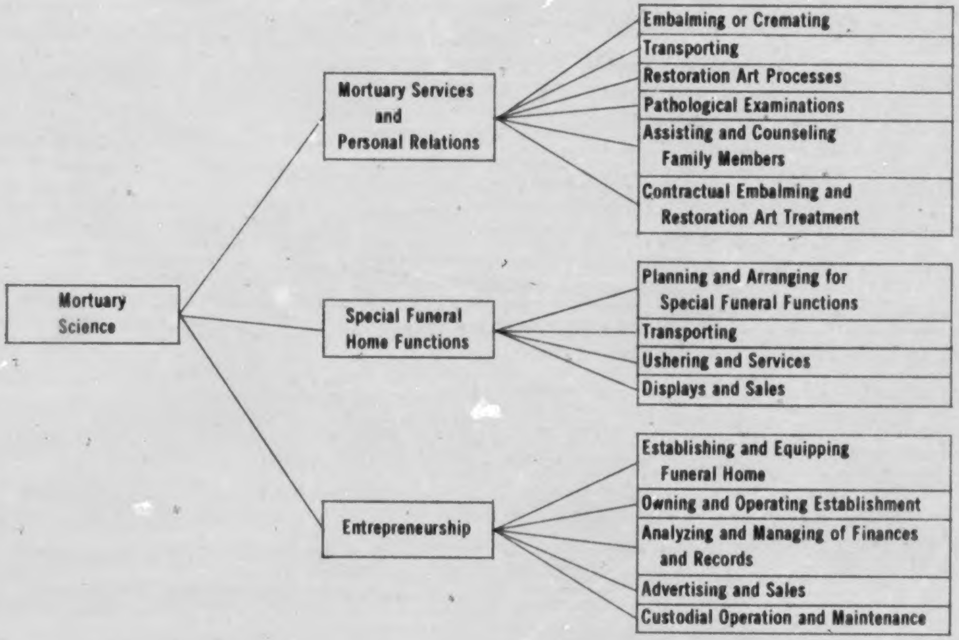
Who Works In These Occupations?

What Is Life Style Of People?

Who Do People Work With?

Where Are These Jobs?

How Do They Accomplish Their Jobs?



- Mortuary Science
  - Mortuary Services and Personal Relations
    - Embalming or Cremating
    - Transporting
    - Restoration Art Processes
    - Pathological Examinations
    - Assisting and Counseling Family Members
    - Contractual Embalming and Restoration Art Treatment
  - Special Funeral Home Functions
    - Planning and Arranging for Special Funeral Functions
    - Transporting
    - Ushering and Services
    - Displays and Sales
  - Entrepreneurship
    - Establishing and Equipping Funeral Home
    - Owning and Operating Establishment
    - Analyzing and Managing of Finances and Records
    - Advertising and Sales
    - Custodial Operation and Maintenance

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Cluster for
PERSONAL SERVICES OCCUPATIONS

Developed By: USOE/DVTE
Draft
Revised
DATE 4/1/71

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

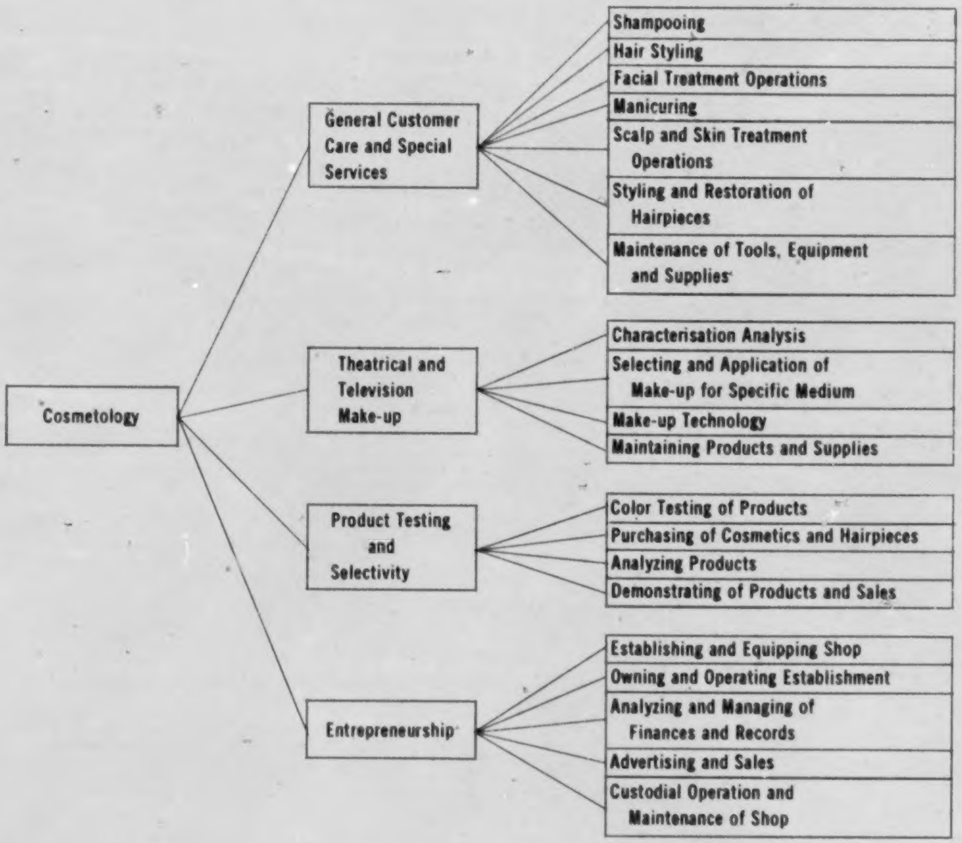
Who Works In These Occupations?

What Is Life Style Of People?

Who Do People Work With?

Where Are These Jobs?

How Do They Accomplish Their Jobs?


Cosmetology
General Customer Care and Special Services
Shampooing
Hair Styling
Facial Treatment Operations
Manicuring
Scalp and Skin Treatment Operations
Styling and Restoration of Hairpieces
Maintenance of Tools, Equipment and Supplies
Theatrical and Television Make-up
Characterisation Analysis
Selecting and Application of Make-up for Specific Medium
Make-up Technology
Maintaining Products and Supplies
Product Testing and Selectivity
Color Testing of Products
Purchasing of Cosmetics and Hairpieces
Analyzing Products
Demonstrating of Products and Sales
Entrepreneurship
Establishing and Equipping Shop
Owning and Operating Establishment
Analyzing and Managing of Finances and Records
Advertising and Sales
Custodial Operation and Maintenance of Shop

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Cluster for
PERSONAL SERVICES OCCUPATIONS

Developed By: USOE/DVTE
Draft
Revised
DATE 4/1/71

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

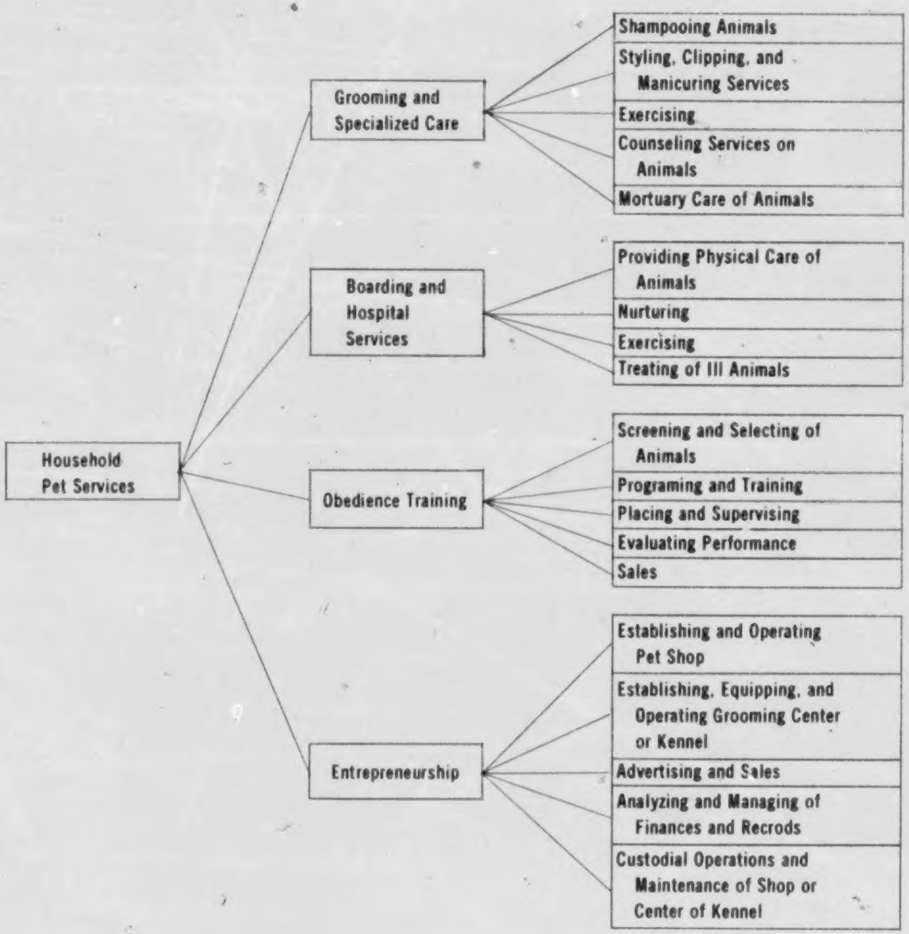
Who Works In These Occupations?

What Is Life Style Of People?

Who Do People Work With?

Where Are These Jobs?

How Do They Accomplish Their Jobs?



Household Pet Services
Grooming and Specialized Care
Shampooing Animals
Styling, Clipping, and Manicuring Services
Exercising
Counseling Services on Animals
Mortuary Care of Animals
Boarding and Hospital Services
Providing Physical Care of Animals
Nurturing
Exercising
Treating of Ill Animals
Obedience Training
Screening and Selecting of Animals
Programing and Training
Placing and Supervising
Evaluating Performance
Sales
Entrepreneurship
Establishing and Operating Pet Shop
Establishing, Equipping, and Operating Grooming Center or Kennel
Advertising and Sales
Analyzing and Managing of Finances and Recrods
Custodial Operations and Maintenance of Shop or Center of Kennel

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Cluster for
CONSUMER AND HOMEMAKING—RELATED OCCUPATIONS

Developed By: USOE/DVTE
Draft
Revised
DATE 4/1/71

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound
What Are The
Occupations?

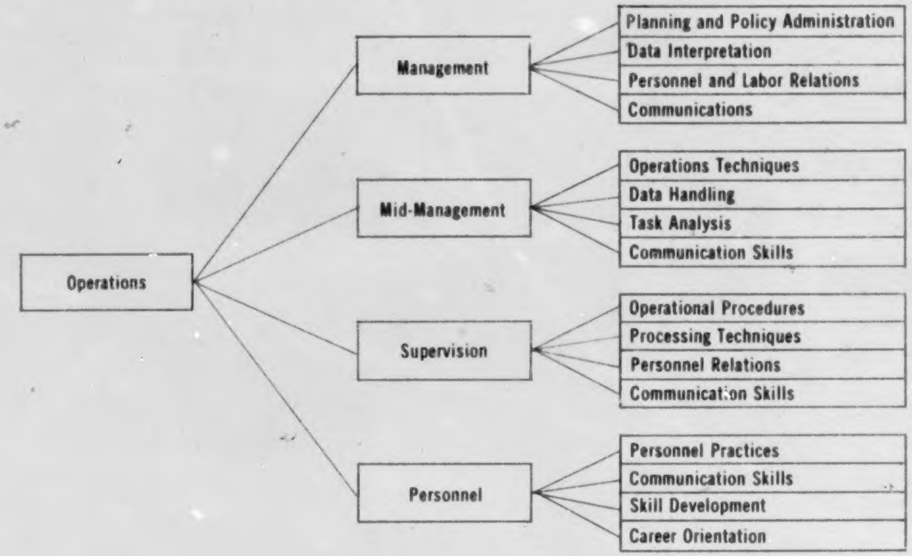
Who Works
In These
Occupations?

What Is Life
Style Of
People?

Who Do People
Work With?

Where Are
These Jobs?

How Do They
Accomplish
Their Jobs?


Operations
Management
Planning and Policy Administration
Data Interpretation
Personnel and Labor Relations
Communications
Mid-Management
Operations Techniques
Data Handling
Task Analysis
Communication Skills
Supervision
Operational Procedures
Processing Techniques
Personnel Relations
Communication Skills
Personnel
Personnel Practices
Communication Skills
Skill Development
Career Orientation

Job Placement

Apprenticeship
and
Adult Education

Post-Secondary
Occupational
Skill Training

Advanced
Education
(4-Year College
Or More)

Cluster for
CONSUMER AND HOMEMAKING—RELATED OCCUPATIONS

Developed By: USOE/DVTE
Draft
Revised
DATE 4/1/71

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

Who Works In These Occupations?

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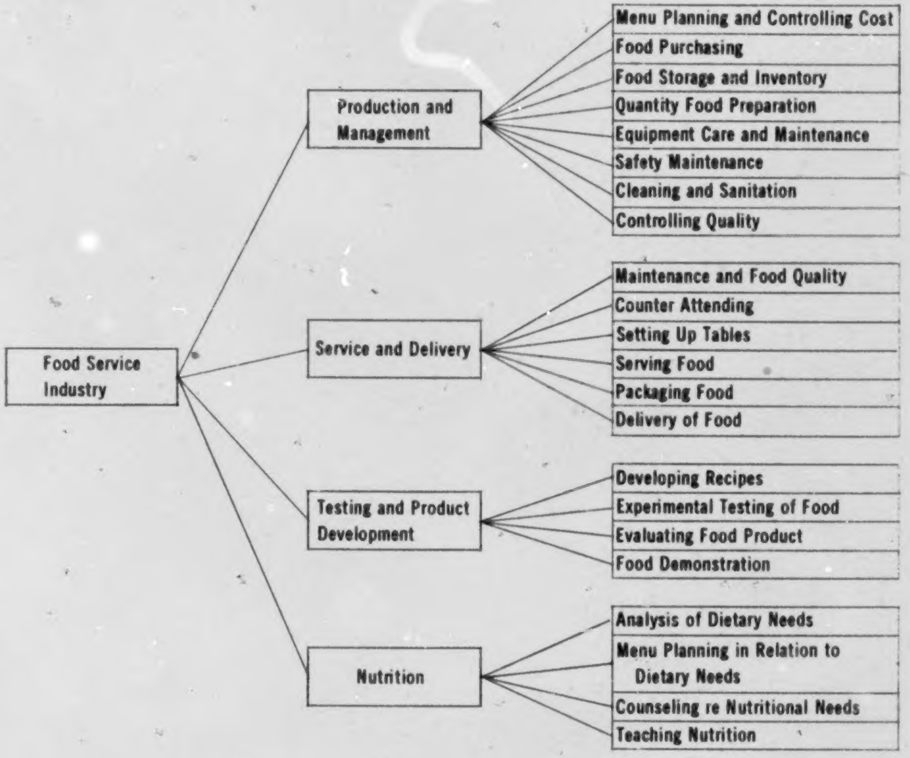
Where Are These Jobs?

How Do They Accomplish Their Jobs?



- Food Service Industry
  - Production and Management
    - Menu Planning and Controlling Cost
    - Food Purchasing
    - Food Storage and Inventory
    - Quantity Food Preparation
    - Equipment Care and Maintenance
    - Safety Maintenance
    - Cleaning and Sanitation
    - Controlling Quality
  - Service and Delivery
    - Maintenance and Food Quality
    - Counter Attending
    - Setting Up Tables
    - Serving Food
    - Packaging Food
    - Delivery of Food
  - Testing and Product Development
    - Developing Recipes
    - Experimental Testing of Food
    - Evaluating Food Product
    - Food Demonstration
  - Nutrition
    - Analysis of Dietary Needs
    - Menu Planning in Relation to Dietary Needs
    - Counseling re Nutritional Needs
    - Teaching Nutrition

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Developed By: USOE/DVTE
Draft
Revised
DATE 4/1/71

Cluster for
CONSUMER AND HOMEMAKING—RELATED OCCUPATIONS

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

Who Works In These Occupations?

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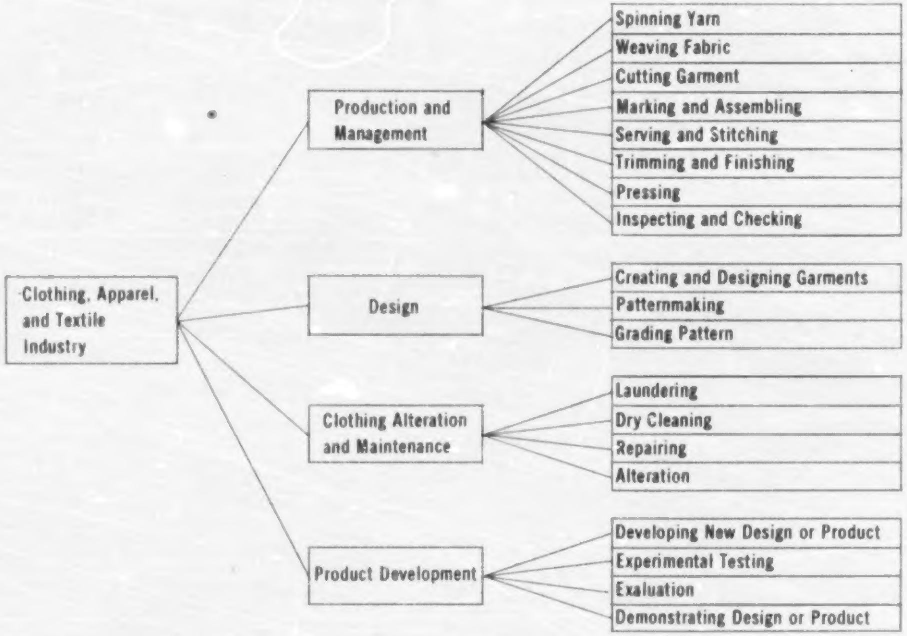
Where Are These Jobs?

How Do They Accomplish Their Jobs?



- Clothing, Apparel, and Textile Industry
  - Production and Management
    - Spinning Yarn
    - Weaving Fabric
    - Cutting Garment
    - Marking and Assembling
    - Serving and Stitching
    - Trimming and Finishing
    - Pressing
    - Inspecting and Checking
  - Design
    - Creating and Designing Garments
    - Patternmaking
    - Grading Pattern
  - Clothing Alteration and Maintenance
    - Laundering
    - Dry Cleaning
    - Repairing
    - Alteration
  - Product Development
    - Developing New Design or Product
    - Experimental Testing
    - Exaluation
    - Demonstrating Design or Product

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Cluster for
CONSUMER AND HOMEMAKING—RELATED OCCUPATIONS

Developed By: USOE/DVTE
Draft
Revised
DATE 4/1/71

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

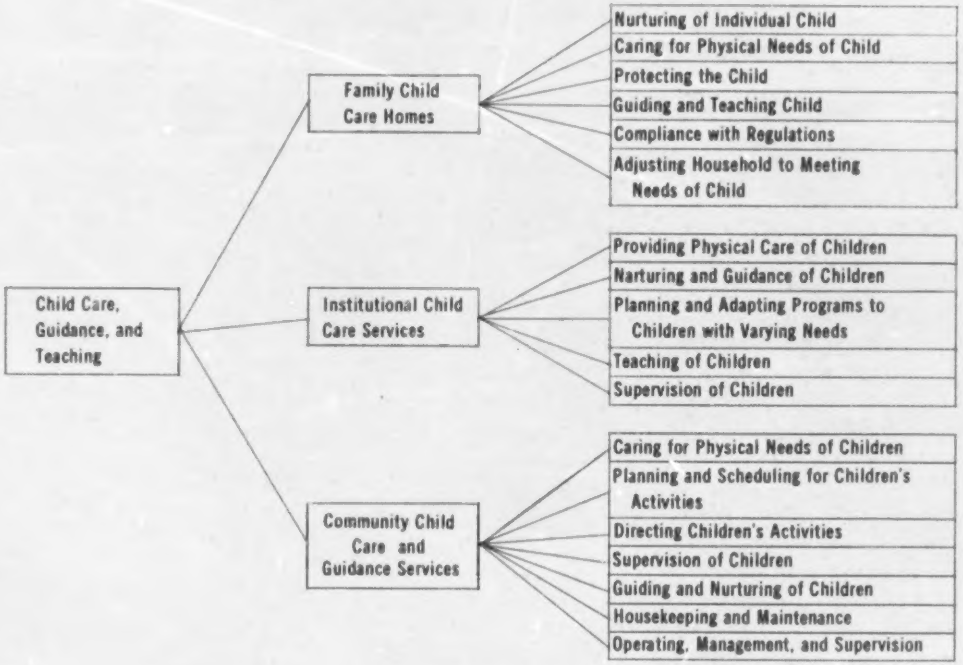
Who Works In These Occupations?

What Is Life Style Of People?

Who Do People Work With?

Where Are These Jobs?

How Do They Accomplish Their Jobs?


Child Care, Guidance, and Teaching
Family Child Care Homes
Nurturing of Individual Child
Caring for Physical Needs of Child
Protecting the Child
Guiding and Teaching Child
Compliance with Regulations
Adjusting Household to Meeting Needs of Child
Institutional Child Care Services
Providing Physical Care of Children
Narturing and Guidance of Children
Planning and Adapting Programs to Children with Varying Needs
Teaching of Children
Supervision of Children
Community Child Care and Guidance Services
Caring for Physical Needs of Children
Planning and Scheduling for Children's Activities
Directing Children's Activities
Supervision of Children
Guiding and Nurturing of Children
Housekeeping and Maintenance
Operating, Management, and Supervision

Job Placement

Apprenticeship and Adult Education

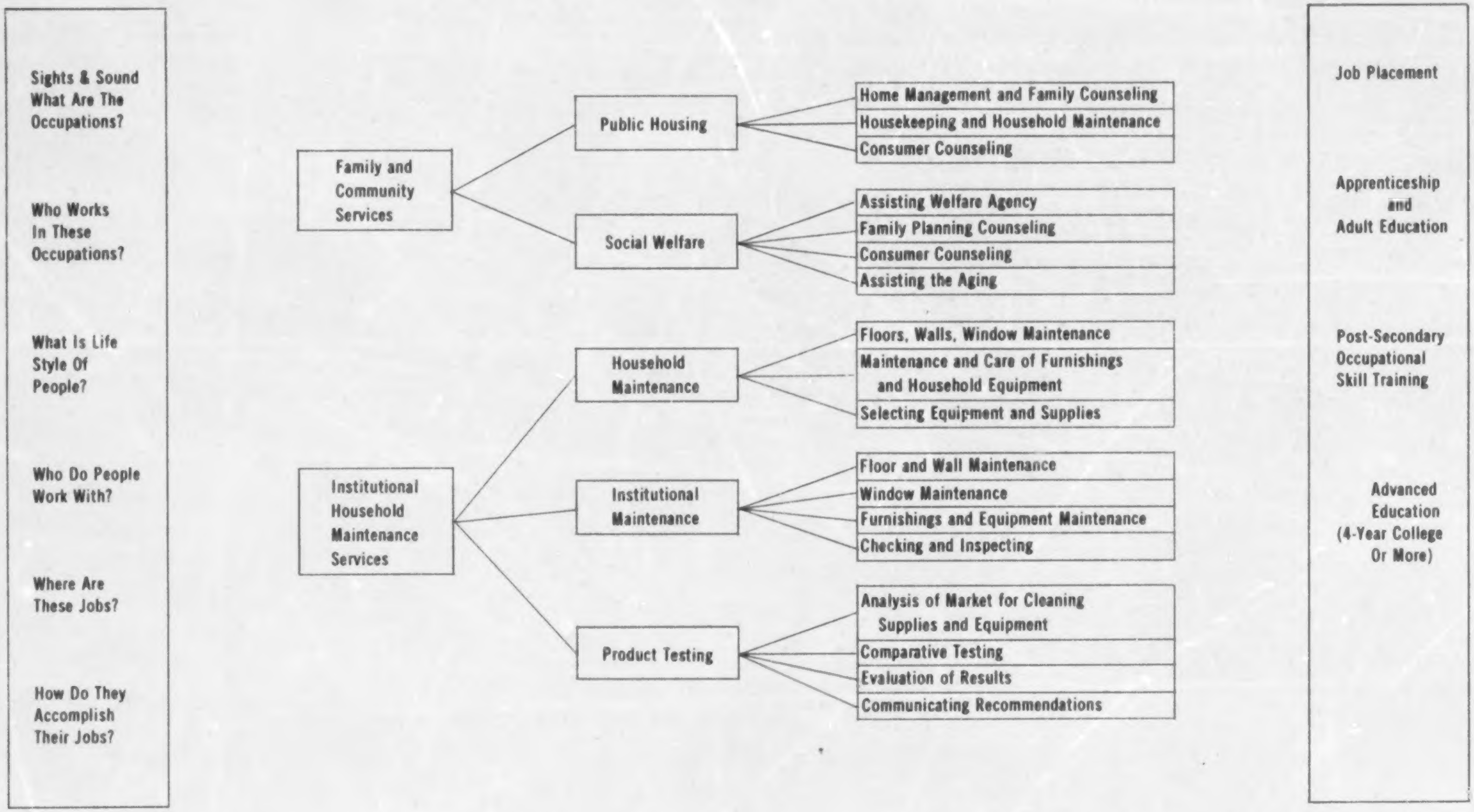
Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Developed By: USOE/DVTE
Draft
Revised
DATE 4/1/71

Cluster for
CONSUMER AND HOMEMAKING—RELATED OCCUPATIONS

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	


Sights & Sound What Are The Occupations?
Who Works In These Occupations?
What Is Life Style Of People?
Who Do People Work With?
Where Are These Jobs?
How Do They Accomplish Their Jobs?
Family and Community Services
Institutional Household Maintenance Services
Public Housing
Social Welfare
Household Maintenance
Institutional Maintenance
Product Testing
Home Management and Family Counseling
Housekeeping and Household Maintenance
Consumer Counseling
Assisting Welfare Agency
Family Planning Counseling
Consumer Counseling
Assisting the Aging
Floors, Walls, Window Maintenance
Maintenance and Care of Furnishings and Household Equipment
Selecting Equipment and Supplies
Floor and Wall Maintenance
Window Maintenance
Furnishings and Equipment Maintenance
Checking and Inspecting
Analysis of Market for Cleaning Supplies and Equipment
Comparative Testing
Evaluation of Results
Communicating Recommendations
Job Placement
Apprenticeship and Adult Education
Post-Secondary Occupational Skill Training
Advanced Education (4-Year College Or More)

Cluster for
CONSUMER AND HOMEMAKING—RELATED OCCUPATIONS

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Draft
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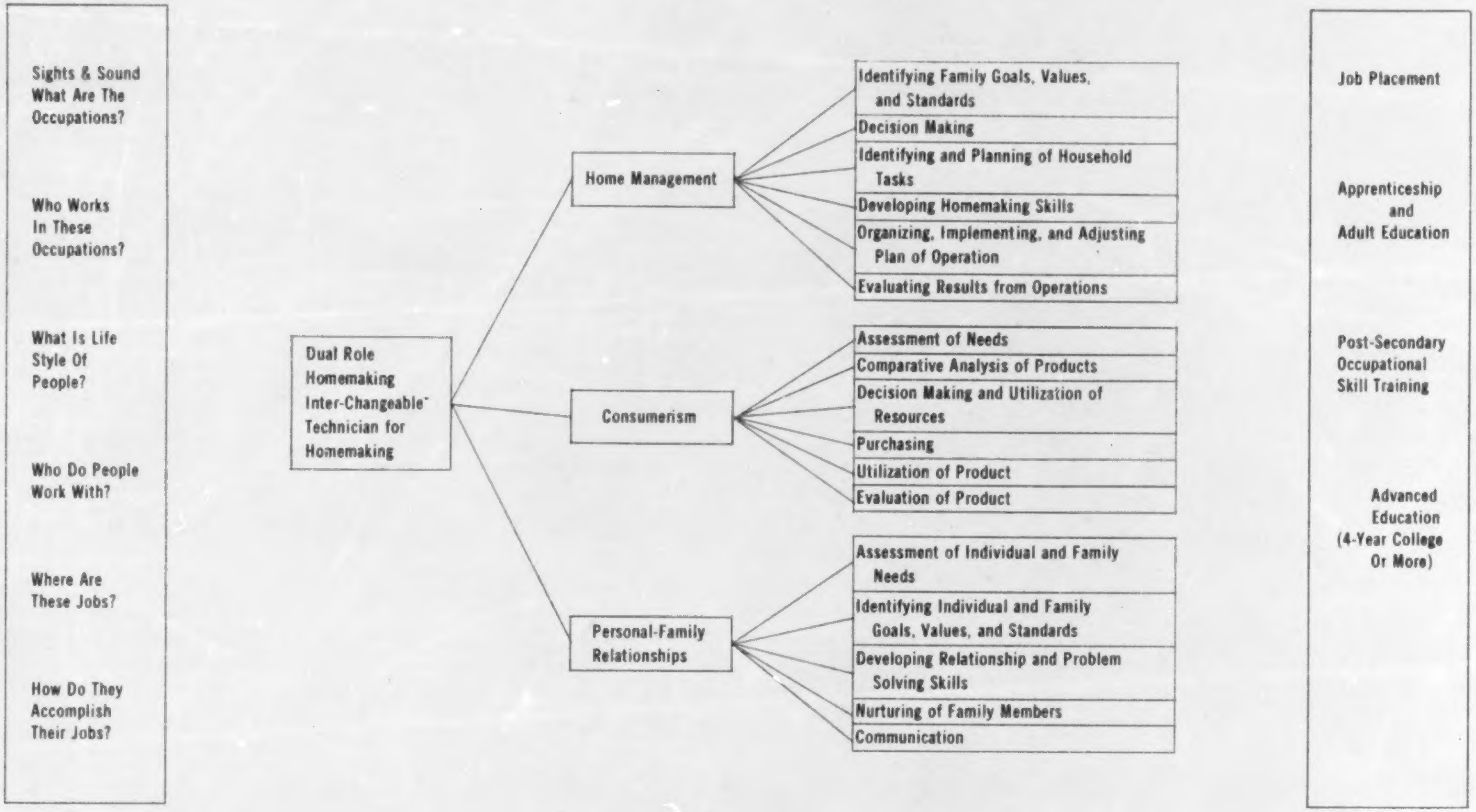
Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	



Sights & Sound What Are The Occupations?

Who Works In These Occupations?

What Is Life Style Of People?

Who Do People Work With?

Where Are These Jobs?

How Do They Accomplish Their Jobs?

Dual Role Homemaking Inter-Changeable Technician for Homemaking

- Home Management
  - Identifying Family Goals, Values, and Standards
  - Decision Making
  - Identifying and Planning of Household Tasks
  - Developing Homemaking Skills
  - Organizing, Implementing, and Adjusting Plan of Operation
  - Evaluating Results from Operations
- Consumerism
  - Assessment of Needs
  - Comparative Analysis of Products
  - Decision Making and Utilization of Resources
  - Purchasing
  - Utilization of Product
  - Evaluation of Product
- Personal-Family Relationships
  - Assessment of Individual and Family Needs
  - Identifying Individual and Family Goals, Values, and Standards
  - Developing Relationship and Problem Solving Skills
  - Nurturing of Family Members
  - Communication

Job Placement

Apprenticeship and Adult Education

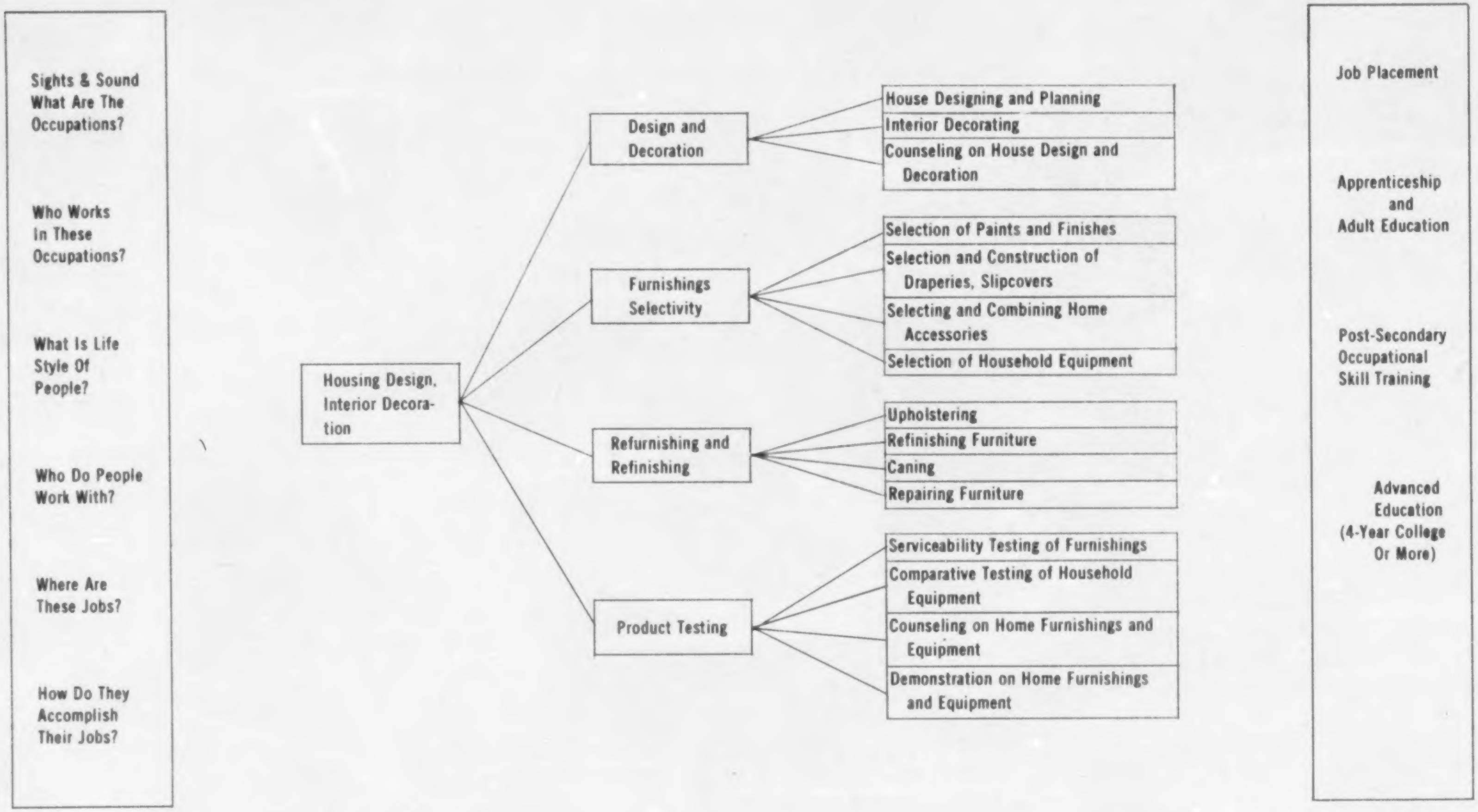
Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Developed By: USOE/DVTE
Draft
Revised
DATE 4/1/71

Cluster for
CONSUMER AND HOMEMAKING—RELATED OCCUPATIONS

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	


Sights & Sound
What Are The Occupations?
Who Works In These Occupations?
What Is Life Style Of People?
Who Do People Work With?
Where Are These Jobs?
How Do They Accomplish Their Jobs?
Housing Design, Interior Decoration
Design and Decoration
House Designing and Planning
Interior Decorating
Counseling on House Design and Decoration
Furnishings Selectivity
Selection of Paints and Finishes
Selection and Construction of Draperies, Slipcovers
Selecting and Combining Home Accessories
Selection of Household Equipment
Refurnishing and Refinishing
Upholstering
Refinishing Furniture
Caning
Repairing Furniture
Product Testing
Serviceability Testing of Furnishings
Comparative Testing of Household Equipment
Counseling on Home Furnishings and Equipment
Demonstration on Home Furnishings and Equipment
Job Placement
Apprenticeship and Adult Education
Post-Secondary Occupational Skill Training
Advanced Education (4-Year College Or More)

Cluster for
RECREATION AND HOSPITALITY (TOURISM)

Developed By: USOE/DVTE
Draft
Revised
DATE 4/1/71

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

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Where Are These Jobs?

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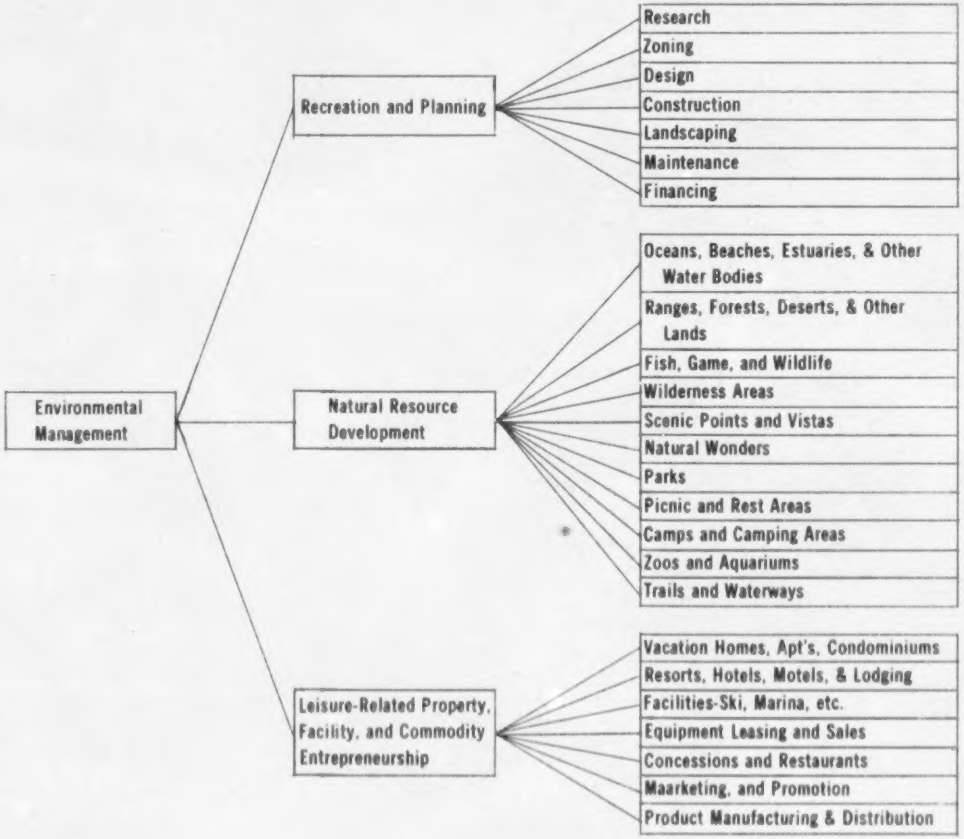

Environmental Management
Recreation and Planning
Research
Zoning
Design
Construction
Landscaping
Maintenance
Financing
Natural Resource Development
Oceans, Beaches, Estuaries, & Other Water Bodies
Ranges, Forests, Deserts, & Other Lands
Fish, Game, and Wildlife
Wilderness Areas
Scenic Points and Vistas
Natural Wonders
Parks
Picnic and Rest Areas
Camps and Camping Areas
Zoos and Aquariums
Trails and Waterways
Leisure-Related Property, Facility, and Commodity Entrepreneurship
Vacation Homes, Apt's, Condominiums
Resorts, Hotels, Motels, & Lodging
Facilities-Ski, Marina, etc.
Equipment Leasing and Sales
Concessions and Restaurants
Maarketing, and Promotion
Product Manufacturing & Distribution

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Developed By: USOE/DVTE
Draft
Revised
DATE 4/1/71

Cluster for
RECREATION AND HOSPITALITY (TOURISM)

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound
What Are The
Occupations?

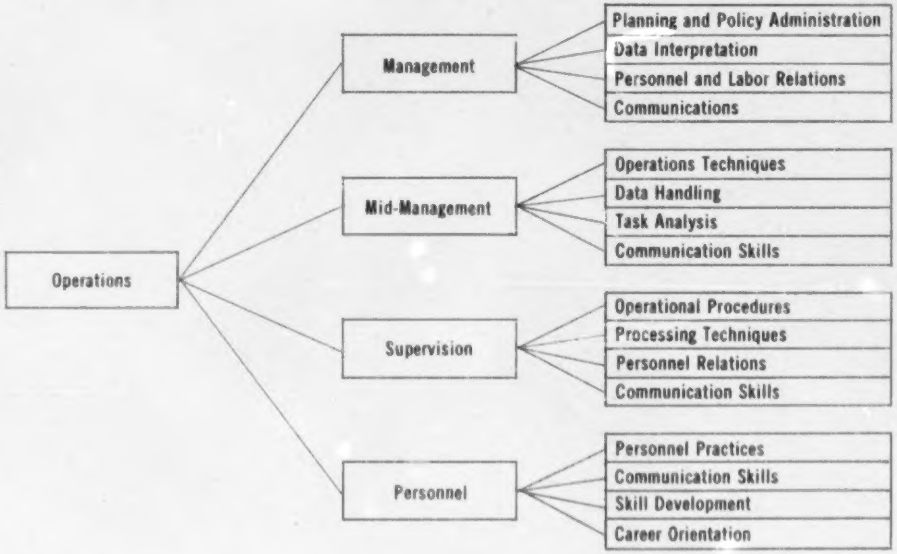
Who Works
In These
Occupations?

What Is Life
Style Of
People?

Who Do People
Work With?

Where Are
These Jobs?

How Do They
Accomplish
Their Jobs?


Operations
Management
Planning and Policy Administration
Data Interpretation
Personnel and Labor Relations
Communications
Mid-Management
Operations Techniques
Data Handling
Task Analysis
Communication Skills
Supervision
Operational Procedures
Processing Techniques
Personnel Relations
Communication Skills
Personnel
Personnel Practices
Communication Skills
Skill Development
Career Orientation

Job Placement

Apprenticeship
and
Adult Education

Post-Secondary
Occupational
Skill Training

Advanced
Education
(4-Year College
Or More)

Cluster for
RECREATION AND HOSPITALITY (TOURISM)

Developed By: USOE/DVTE
Draft
Revised
DATE 4/1/71

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-	7-8-9	10-11-12	

Sights & Sound What Are The Occupations?

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Where Are These Jobs?

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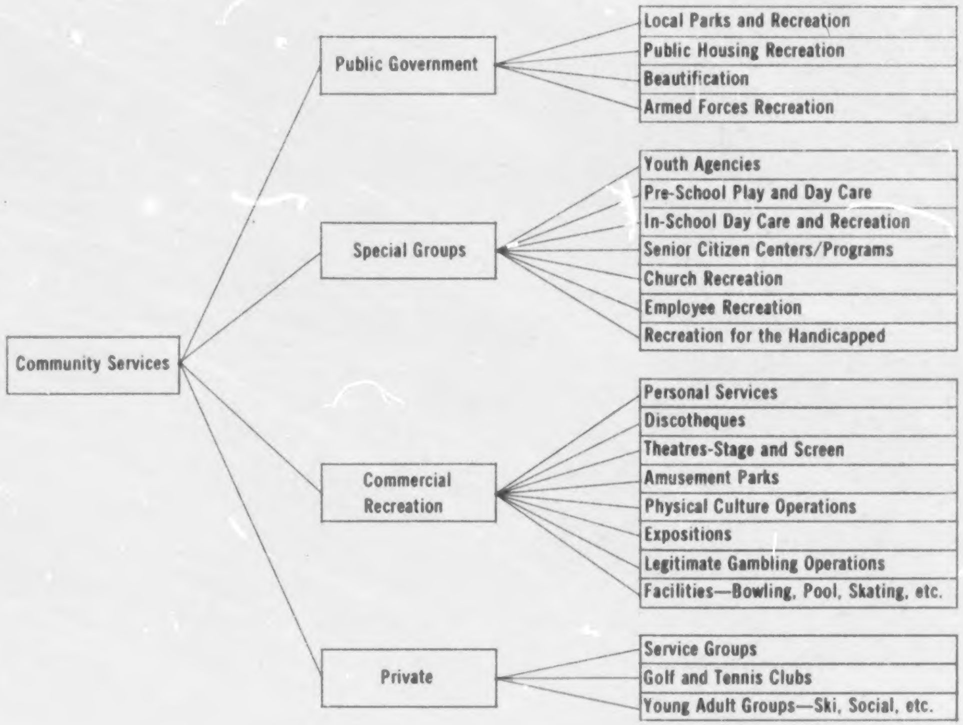

Community Services
Public Government
Local Parks and Recreation
Public Housing Recreation
Beautification
Armed Forces Recreation
Special Groups
Youth Agencies
Pre-School Play and Day Care
In-School Day Care and Recreation
Senior Citizen Centers/Programs
Church Recreation
Employee Recreation
Recreation for the Handicapped
Commercial Recreation
Personal Services
Discotheques
Theatres-Stage and Screen
Amusement Parks
Physical Culture Operations
Expositions
Legitimate Gambling Operations
Facilities—Bowling, Pool, Skating, etc.
Private
Service Groups
Golf and Tennis Clubs
Young Adult Groups—Ski, Social, etc.

Job Placement

Apprenticeship and Adult Education

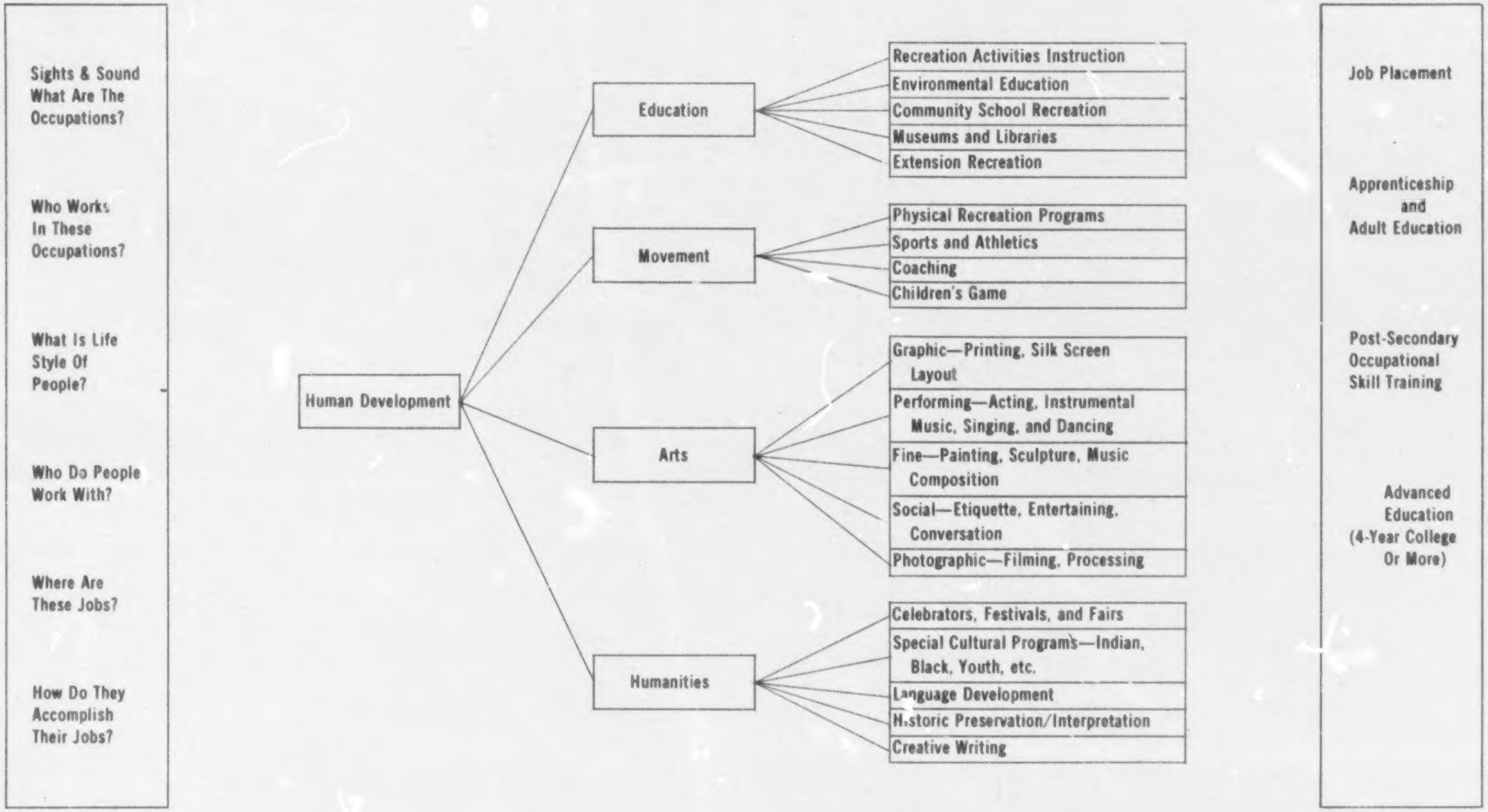
Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Developed By: USOE/DVTE
Draft
Revised
DATE 4/1/71

Cluster for
RECREATION AND HOSPITALITY (TOURISM)

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	


Sights & Sound What Are The Occupations?
Who Works In These Occupations?
What Is Life Style Of People?
Who Do People Work With?
Where Are These Jobs?
How Do They Accomplish Their Jobs?
Human Development
Education
Movement
Arts
Humanities
Recreation Activities Instruction
Environmental Education
Community School Recreation
Museums and Libraries
Extension Recreation
Physical Recreation Programs
Sports and Athletics
Coaching
Children's Game
Graphic—Printing, Silk Screen Layout
Performing—Acting, Instrumental Music, Singing, and Dancing
Fine—Painting, Sculpture, Music Composition
Social—Etiquette, Entertaining, Conversation
Photographic—Filming, Processing
Celebrators, Festivals, and Fairs
Special Cultural Programs—Indian, Black, Youth, etc.
Language Development
Historic Preservation/Interpretation
Creative Writing
Job Placement
Apprenticeship and Adult Education
Post-Secondary Occupational Skill Training
Advanced Education (4-Year College Or More)

Developed By: USOE/DVTE
Draft
Revised
DATE 4/1/71

Cluster for
RECREATION AND HOSPITALITY (TOURISM)

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound
What Are The
Occupations?

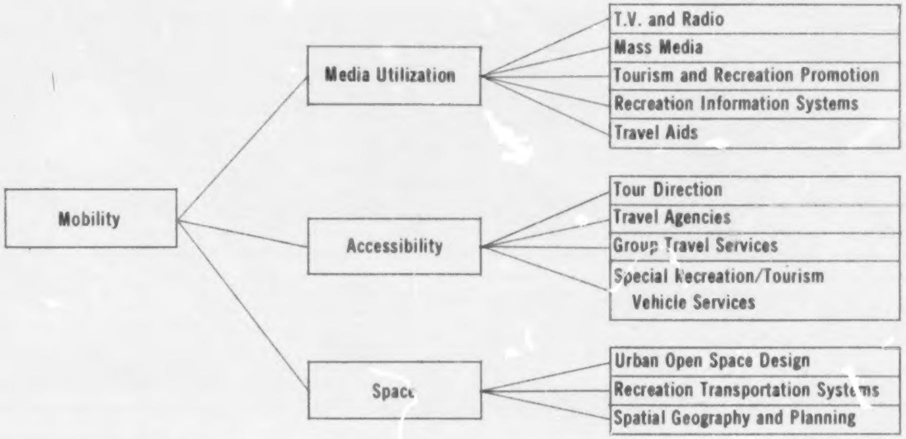
Who Works
In These
Occupations?

What Is Life
Style Of
People?

Who Do People
Work With?

Where Are
These Jobs?

How Do They
Accomplish
Their Jobs?


Mobility
Media Utilization
T.V. and Radio
Mass Media
Tourism and Recreation Promotion
Recreation Information Systems
Travel Aids
Accessibility
Tour Direction
Travel Agencies
Group Travel Services
Special Recreation/Tourism Vehicle Services
Space
Urban Open Space Design
Recreation Transportation Systems
Spatial Geography and Planning

Job Placement

Apprenticeship
and
Adult Education

Post-Secondary
Occupational
Skill Training

Advanced
Education
(4-Year College
Or More)

Cluster for
RECREATION AND HOSPITALITY (TOURISM)

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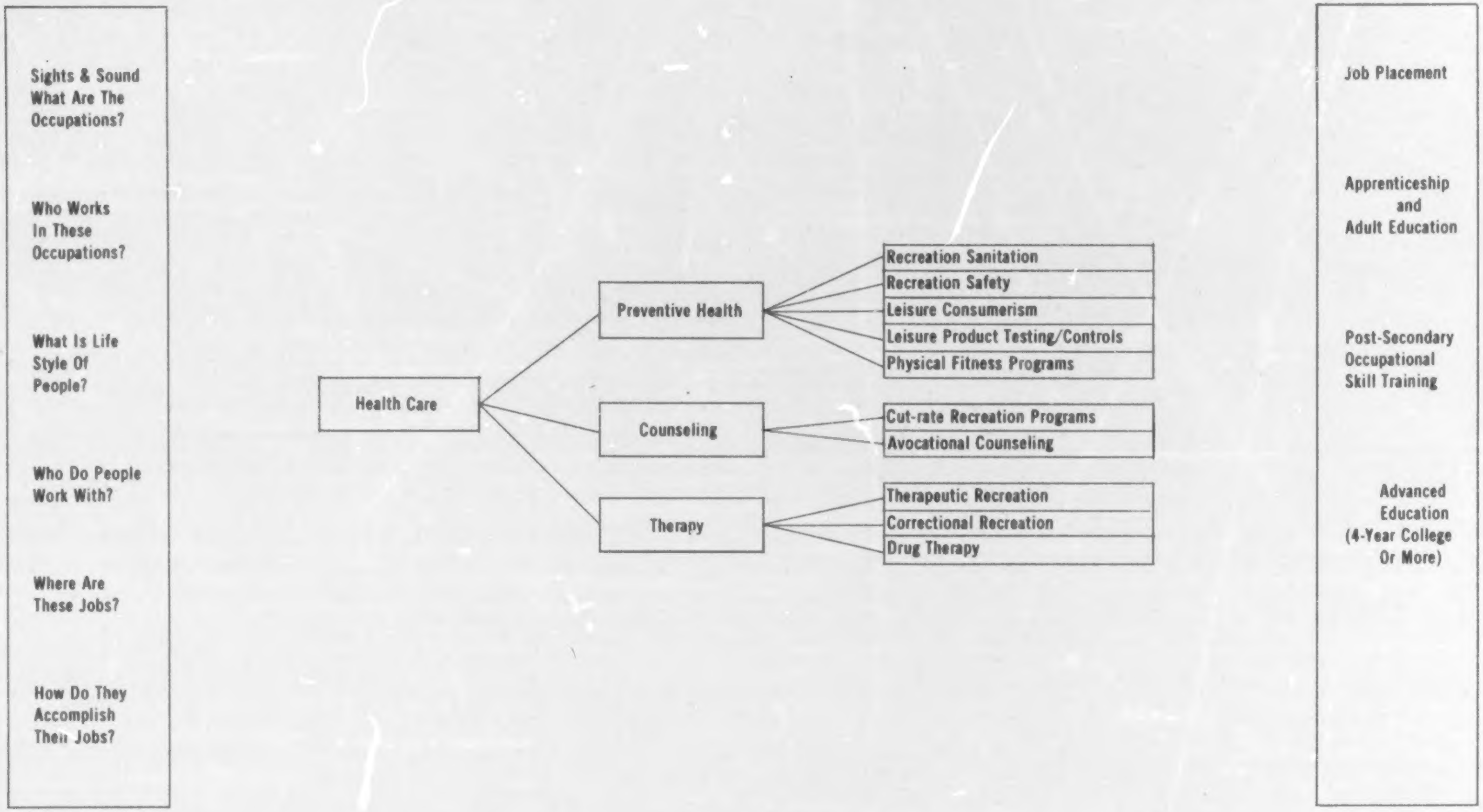
Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	



Sights & Sound What Are The Occupations?
Who Works In These Occupations?
What Is Life Style Of People?
Who Do People Work With?
Where Are These Jobs?
How Do They Accomplish Their Jobs?
Health Care
Preventive Health
Counseling
Therapy
Recreation Sanitation
Recreation Safety
Leisure Consumerism
Leisure Product Testing/Controls
Physical Fitness Programs
Cut-rate Recreation Programs
Avocational Counseling
Therapeutic Recreation
Correctional Recreation
Drug Therapy
Job Placement
Apprenticeship and Adult Education
Post-Secondary Occupational Skill Training
Advanced Education (4-Year College Or More)

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Draft
Revised
DATE 4/1/71

Cluster for
FINE ARTS AND HUMANITIES

Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

Sights & Sound
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Occupations?

Who Works
In These
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What Is Life
Style Of
People?

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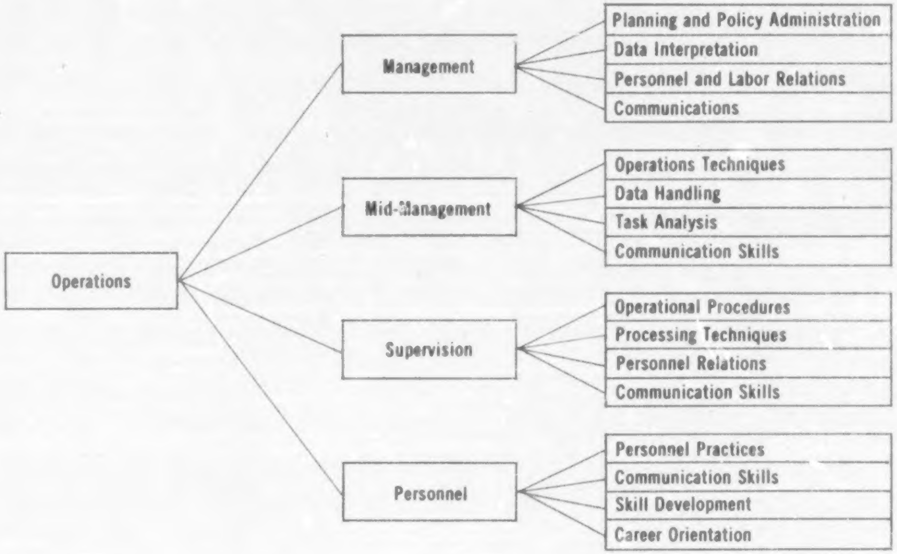
Where Are
These Jobs?

How Do They
Accomplish
Their Jobs?


Operations
Management
Planning and Policy Administration
Data Interpretation
Personnel and Labor Relations
Communications
Mid-Management
Operations Techniques
Data Handling
Task Analysis
Communication Skills
Supervision
Operational Procedures
Processing Techniques
Personnel Relations
Communication Skills
Personnel
Personnel Practices
Communication Skills
Skill Development
Career Orientation

Job Placement

Apprenticeship
and
Adult Education

Post-Secondary
Occupational
Skill Training

Advanced
Education
(4-Year College
Or More)

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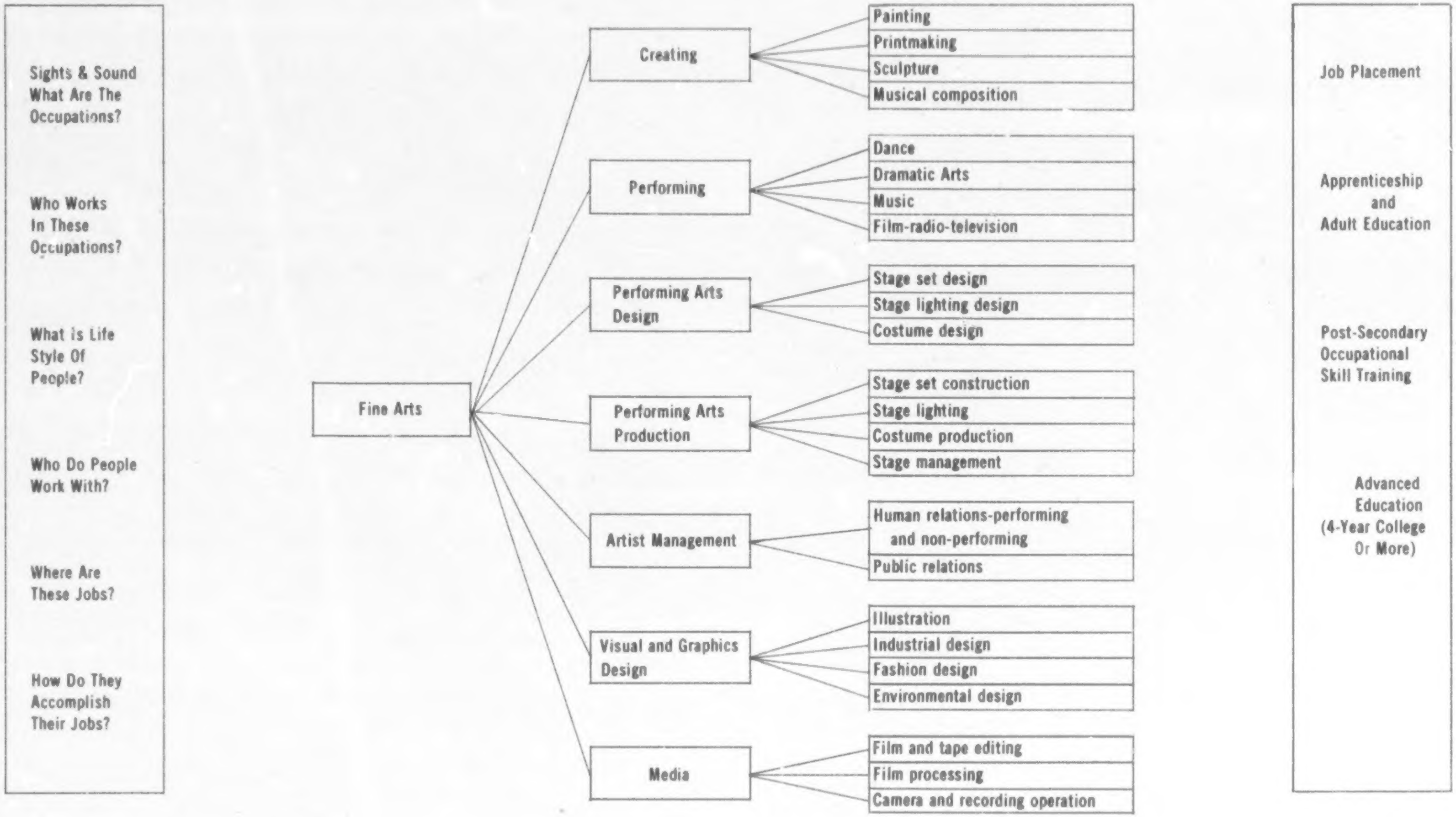
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How Do They Accomplish Their Jobs?
Fine Arts
Creating
Painting
Printmaking
Sculpture
Musical composition
Performing
Dance
Dramatic Arts
Music
Film-radio-television
Performing Arts Design
Stage set design
Stage lighting design
Costume design
Performing Arts Production
Stage set construction
Stage lighting
Costume production
Stage management
Artist Management
Human relations-performing and non-performing
Public relations
Visual and Graphics Design
Illustration
Industrial design
Fashion design
Environmental design
Media
Film and tape editing
Film processing
Camera and recording operation
Job Placement
Apprenticeship and Adult Education
Post-Secondary Occupational Skill Training
Advanced Education (4-Year College Or More)

Cluster for
FINE ARTS AND HUMANITIES

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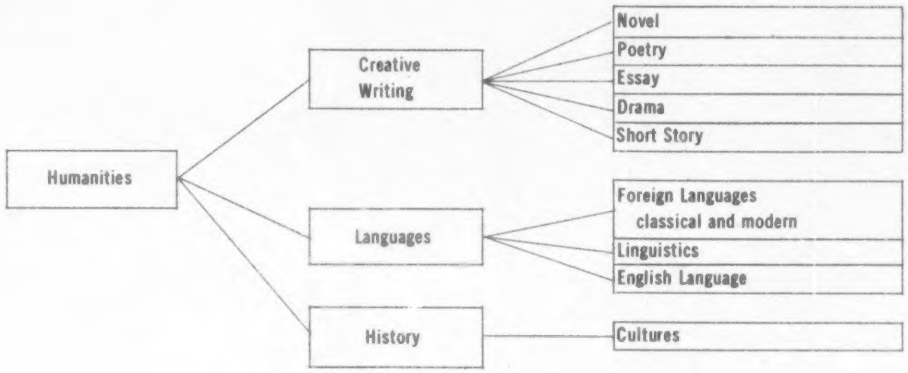
Humanities
Creative Writing
Novel
Poetry
Essay
Drama
Short Story
Languages
Foreign Languages classical and modern
Linguistics
English Language
History
Cultures

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Cluster for
MANUFACTURING

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1-2-3-4-5-6	7-8-9	10-11-12	

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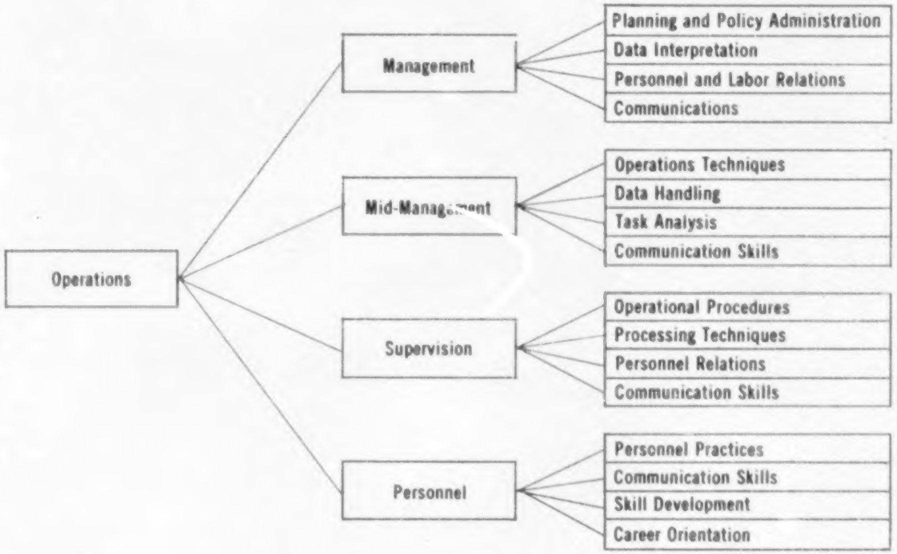
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Supervision
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Processing Techniques
Personnel Relations
Communication Skills
Personnel
Personnel Practices
Communication Skills
Skill Development
Career Orientation

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

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MANUFACTURING

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1-2-3-4-5-6	7-8-9	10 11-12	

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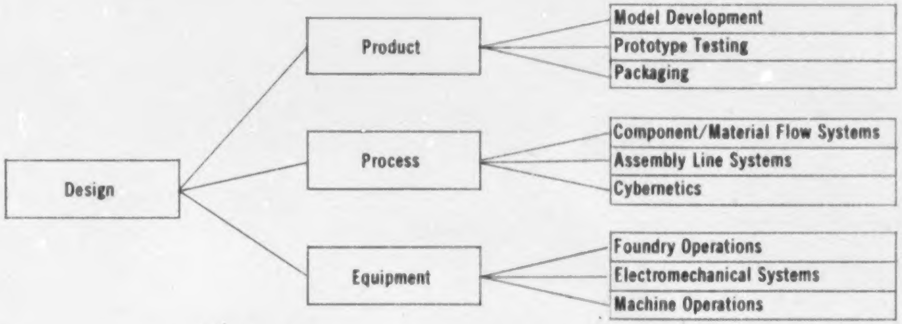
Design
Product
Process
Equipment
Model Development
Prototype Testing
Packaging
Component/Material Flow Systems
Assembly Line Systems
Cybernetics
Foundry Operations
Electromechanical Systems
Machine Operations

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Cluster for
MANUFACTURING

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1-2-3-4-5-6	7-8 9	10-11-12	

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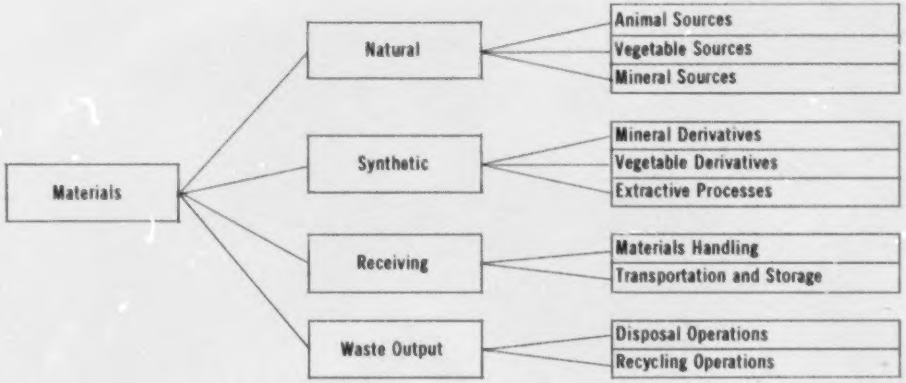

Materials
Natural
Animal Sources
Vegetable Sources
Mineral Sources
Synthetic
Mineral Derivatives
Vegetable Derivatives
Extractive Processes
Receiving
Materials Handling
Transportation and Storage
Waste Output
Disposal Operations
Recycling Operations

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Cluster for
MANUFACTURING

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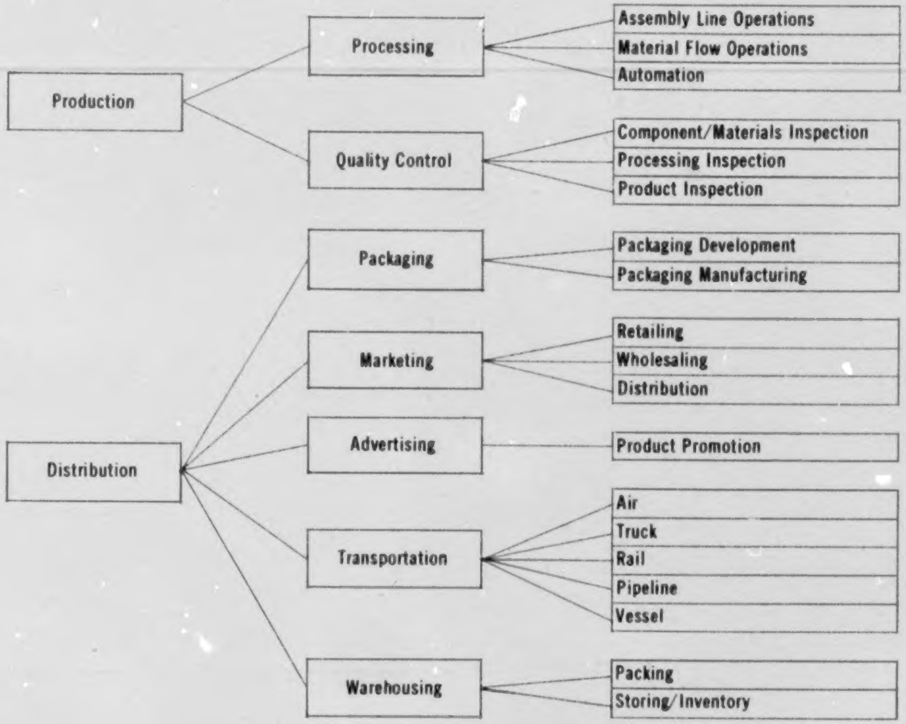
Production
Processing
Assembly Line Operations
Material Flow Operations
Automation
Quality Control
Component/Materials Inspection
Processing Inspection
Product Inspection
Distribution
Packaging
Packaging Development
Packaging Manufacturing
Marketing
Retailing
Wholesaling
Distribution
Advertising
Product Promotion
Transportation
Air
Truck
Rail
Pipeline
Vessel
Warehousing
Packing
Storing/Inventory

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

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1-2-3-4-5-6	7-8-9	10-11-12	

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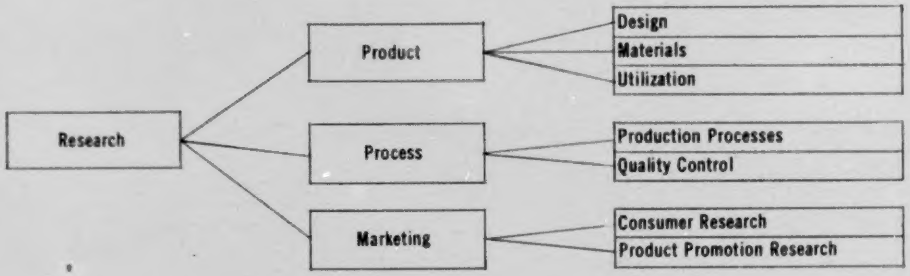

Research
Product
Design
Materials
Utilization
Process
Production Processes
Quality Control
Marketing
Consumer Research
Product Promotion Research

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Cluster for
CONSTRUCTION

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1-2-3-4-5-6	7-8-9	10-11-12	

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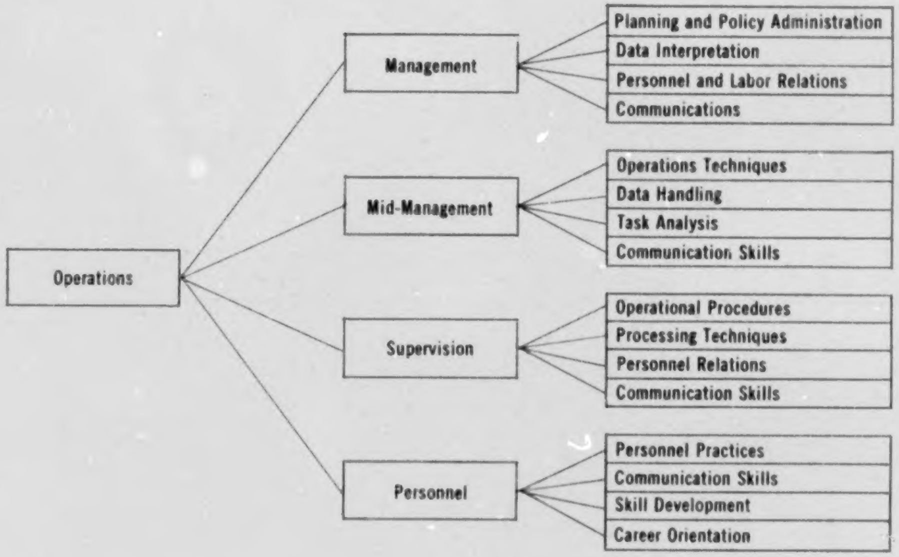
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Processing Techniques
Personnel Relations
Communication Skills
Personnel
Personnel Practices
Communication Skills
Skill Development
Career Orientation

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

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1-2-3-4-5-6	7-8-9	10-11-12	

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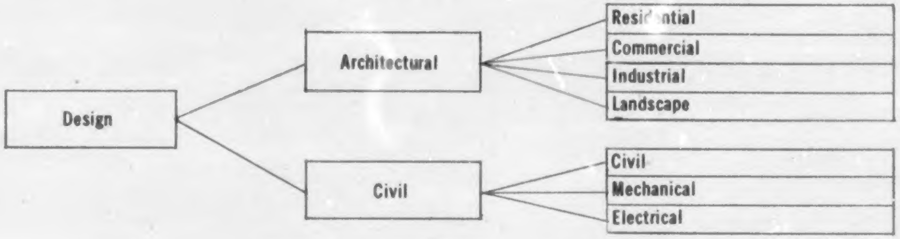
Design
Architectural
Residential
Commercial
Industrial
Landscape
Civil
Civil
Mechanical
Electrical

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Cluster for
CONSTRUCTION

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1-2-3-4-5-6	7-8-9	10-11-12	

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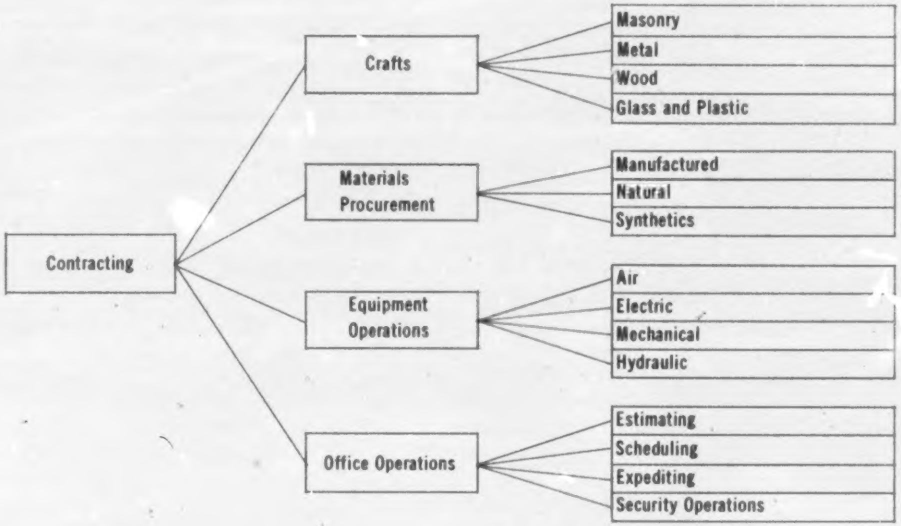
Contracting
Crafts
Masonry
Metal
Wood
Glass and Plastic
Materials Procurement
Manufactured
Natural
Synthetics
Equipment Operations
Air
Electric
Mechanical
Hydraulic
Office Operations
Estimating
Scheduling
Expediting
Security Operations

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Cluster for
CONSTRUCTION

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Draft
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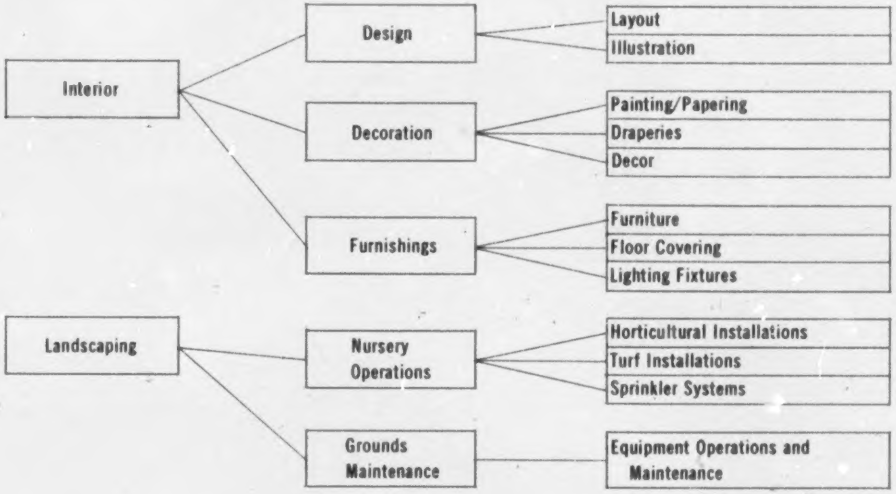
Interior
Design
Layout
Illustration
Decoration
Painting/Papering
Draperies
Decor
Furnishings
Furniture
Floor Covering
Lighting Fixtures
Landscaping
Nursery Operations
Horticultural Installations
Turf Installations
Sprinkler Systems
Grounds Maintenance
Equipment Operations and Maintenance

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)

Cluster for
CONSTRUCTION

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Elementary Education	Pre-Vocational and Exploratory	Skill Development and Related Knowledge	Options After Grade 12
1-2-3-4-5-6	7-8-9	10-11-12	

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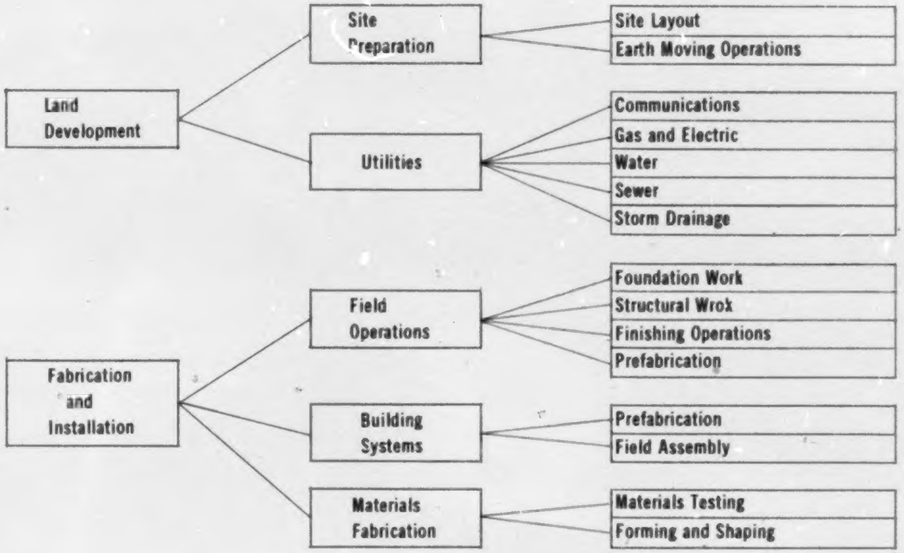
Land Development
Site Preparation
Site Layout
Earth Moving Operations
Utilities
Communications
Gas and Electric
Water
Sewer
Storm Drainage
Fabrication and Installation
Field Operations
Foundation Work
Structural Wrok
Finishing Operations
Prefabrication
Building Systems
Prefabrication
Field Assembly
Materials Fabrication
Materials Testing
Forming and Shaping

Job Placement

Apprenticeship and Adult Education

Post-Secondary Occupational Skill Training

Advanced Education (4-Year College Or More)